RURAL SCHOOLS

IN THE

CENTRAL PROVINCES.

ed to
, the
eat-
g
r

Agents for the sale of Books published by the Superintendent of Government Printing, India, Calcutta.

IN ENGLAND.

HENRY S. KING & Co., 65, Cornhill, and 45, Pall Mall, London.

E. A. ARNOLD, 37, Bedford Street, Strand, London, W.C.

CONSTABLE & Co., 2, Whitehall Gardens, London, S.W.

SAMPSON LOW, MARSTON & Co., St. Dunstan's House, Fetter Lane, London, E.C.

P. S. KING & SON, 2 & 4, Great Smith Street, Westminster, London, S.W.

LUZAC & Co., 46, Great Russell Street, London, W.C.

KEGAN PAUL, TRENCH TRÜBNER & Co., Charing Cross Road, London, W.C.

B. ALFRED QUARITCH, 15, Piccadilly, London, W.

WILLIAMS & NORGATE, Oxford.

DEIGHTON BELL & Co., Cambridge.

ON THE CONTINENT.

R. FRIEDLÄNDER & SOHN, 11, Carlstrasse, Berlin, Germany.

OTTO HARRASSOWITZ, Leipzig, Germany.

KARL W. HIERSEMANN, Leipzig, Germany.

ERNEST LEROUX, 28, Rue Bonaparte, Paris, France.

MARTINUS NIJHOFF, The Hague, Holland.

IN INDIA.

THACKER, SPINK & Co., Calcutta and Simla.

NEWMAN & Co., Calcutta.

S. K. LAHIRI & Co., Calcutta.

R. CAMBRAY & Co., Calcutta.

HIGGINBOTHAM & Co., Madras.

V. KALYANARAMA, IYER & Co., Madras.

G. A. NATESON & Co., Madras.

THACKER & Co., LD., Bombay.

A. J. COMBRIDGE & Co., Bombay.

D. B. TARAPOREVALA, SONS & Co., Bombay.

RADHABAI ATMARAM SAGOON, Bombay.

Rai Sahib M. GULAB SINGH & SONS, Mufid-I-Am Press, Lahore.

N. B. MATHUR, Superintendent, Nazir Kanun Hind Press, Allahabad.

SUPERINTENDENT, AMERICAN BAPTIST MISSION PRESS, RANGOON.

INTRODUCTION TO VOLUME I.

THIS series of reports is intended to make known to those who are engaged in education in India, what is being attempted or achieved by all ranks of workers in the same field. It conveys no orders, and contains no declarations of Government policy. The writers alone are responsible for the opinions expressed; and the choice of a subject does not imply the intention to hold up for imitation the system of instruction described. India contains within her borders people who differ from one another in race, religion, history, language, social usages, more widely than the nations of Europe; so that no certain conclusion can be drawn as to the probable effect in one Province of methods of instruction which have been found to succeed in another. But, in spite of the sharp contrasts of character and intelligence that underlie education in India, one Imperial policy controls the whole; and in virtue of this a common interest unites all who, whether in the service of Government or not, are striving to promote good teaching in schools or colleges. The range and variety of the problems with which we are concerned give scope for the free play of ideas on the subject, and justify an ampler and more discursive style of treatment than is possible under the conditions which govern the production of official reports.

The bulk of the population of India is engaged in agriculture. Viewed therefore in the light of the numbers directly affected, by far the greatest part of Indian education means the provision of good rural primary schools for the sons of agriculturists. In the Central Provinces, Mr. Sharp writes, "the rural school, established out of nothing, and in the teeth of

opposition, itself had to create the want that it was desti[ed to] the fulfil." This is not true of all parts of India; consequently [the] system which Mr. Sharp describes may be regarded as the tr[ying] ment of our most momentous problem in its most perplexi[ng] form. Those who are familiar with the movement in othe[r] countries towards making the course of instruction in rural schools more "practical", will recognise the similarity of the lines on which the rural school in the Central Provinces has been developed; the half-time school, so designed as to allow the children to work in the fields during the rest of the day; the modification of the curriculum to suit their requirements, and also to adapt the school to the needs of the minority who are not agriculturists; the school gardens, the lessons on village records, practically illustrated in the fields; the training of the teachers on a farm, and the lessons on "agriculture" given in the village school, with the limits within which such lessons can be useful. Valuable as farm training is for primary teachers, in order to turn their eyes on to the external world, and induce them to base their lessons in the village school upon common things familiar to the children, it does not pretend to aim at reforming agricultural practice. The object of the village school is to make the children "observers, thinkers, experimenters" in however humble a degree; it is not an agency for teaching the agricultural population how to conduct their business.

School Boards, School Committees, District Councils, Inspectors, examinations, standards, normal schools and certificated teachers—these things are English in origin; and within the framework so constructed, we see, in the lively picture which Mr. Sharp has painted, the school at work; the malguzar and the patwarī; the boys repeating their fractional

tables according to immemorial custom, and solving arithmetical problems by the traditional rules; learning their sacred poetry by methods which have a native technique and terminology of their own; chanting it to Indian music; writing the appropriate auspicious words or formal salutations in their sums and their letters; learning something of the intricacies of Indian land tenure, and drilling by the native system of physical exercises called *Deshi Kasrat*. We, watching them, discuss the place of object lessons in such a scheme of instruction, the encouragement of *Heimatkunde*, the application of the doctrines of Fröbel, and the rendering of "capillary attraction" into intelligible Hindi.

The system followed in the Central Provinces has its distinguishing characteristics, and these may be worth study, without assuming that they are necessarily superior to other ways of dealing with the same question, nor that they will certainly succeed in another soil. The half-time school has been tried elsewhere, but not hitherto with equally good results; the distinct rural curriculum is a feature not found in all provincial systems; the School Committee, which appears on the whole to succeed in giving the villagers an interest in their school without exciting them to undue interference, is worth the attention of those who are considering its extension; *Deshi Kasrat* is already attaining popularity in some other provinces which have not already their own varieties of physical exercises. The solidity and brightness of the school premises, often the best kept buildings in the village, are also a characteristic in which the Central Provinces differ from some others in which primary education is more widely diffused.

But in its intermixture of English and native methods, here an indigenous tradition utilised, there an English form superimposed, the system described in this volume is typical of pri-

mary schools, and indeed of the whole educational fabric, throughout India. It is an intermixture requiring great skill and care in its detailed adjustments, so as neither to perpetuate the native routine of antiquity, nor to bewilder the simple countryman with demands for "Socratic and Pestalozzic methods", but to produce an adaptation which the villager can understand, and the Englishman approve. The highest powers of the educational officer are exercised in making effective in the elementary school the contact between Western ideals and native life. On the one side, he has to winnow out the pedagogy which comes from Europe, until all that is merely formula, catchword or apparatus has been rejected, and only that which is essential remains. On the other side, he needs the gift of entering completely into native modes of thought; an intimate knowledge of the language of the country, and a vivid sympathy with its people.

H. W. ORANGE,
Director General of Education in India.

Simla, November 1908.

CONTENTS.

Section XII.—THE TRAINING OF TEACHERS.

RURAL SCHOOLS

IN THE

CENTRAL PROVINCES.

Section I.—INTRODUCTORY.

Introductory remarks.

1. The following pages are an attempt to describe the working of rural schools in the Central Provinces. The picture of the school occupies section II; the analysis and building up of its constituent parts are given in sections III to XIII; section XIV summarises and reviews the objects aimed at and the extent to which they are attained.

2. Our business in these pages is almost solely with rural primary schools for boys. Out of a total of 2,563 educational institutions and of 142,720 scholars in the province, 2,123 boys' schools and 123,331 male scholars are of the primary grade; and of these schools the great bulk are rural. The districts over which these schools are scattered vary greatly in their physical and ethnographical characteristics. The Central Provinces are not among the most advanced of the great divisions of India. They contain hilly tracts of wide extent, hard of access and notorious for fever, thin-soiled, covered with forest, whither the aboriginal tribes fled for refuge when the flood of Indo-Aryan invasion swept over the richer plains below. There, in the fastnesses of the Satpura and Vindhya hills, they still dwell, forming even now twenty-four per cent. of the population—Gonds, Kols, Korkus, and Baigas—a shy and superstitious folk almost wholly unamenable to the influences of civilisation. To the west of these hill tracts are the Bhils; in the east the inhabitants are Uriya—a race (perhaps unjustly) reckoned among the most backward of India. From north and

south the waves of Hindu conquest have crept up the valleys and lapped the bases of the hills—from the north Kurmis and Lodhis, neither of them castes of exalted origin; from the south the Marathas. In the rural tracts the Muhammadan element is a negligible quantity.

3. The density of the population is only just over one hundred persons per square mile. And yet the figures dealing with education (ludicrous as they would appear in a European country) are not unsatisfactory when compared with other parts of India. Of the boys of a school-going age fifteen per cent., of the girls just over one per cent., are actually under instruction. Eight per cent. may be taken as the figure for both sexes together.

4. It is for the cultivating and labouring classes that the rural primary school is chiefly intended. Hence such a school is primarily "half-time"; that is, the children who will be expected in the future, and are even now called upon, to engage in manual labour, attend school for only three hours in the early morning, the rest of the day being thus left free. Such a pupil enters at the age of five or six years, and generally leaves school (passing the Primary Examination) at any age from ten to fourteen years. His education is then ended.

5. It is such a school which I have endeavoured to describe in the following pages, in the preparation of which I beg to acknowledge the aid accorded me by Mr. A. Monro, the Director of Public Instruction, who read through the draft of each section and added valuable suggestions; and of Mr. F. G. Sly, the Director of Agriculture, and Mr. R. McGavin Spence, the Superintendent of the Training Institution, Jubbulpore, who looked over the portions dealing with the Normal Agricultural Class and the Training Institution, and supplied me with data. I have also received help from Mr. Joshi, the Superintendent of the Experimental Farm, Mr. Ganpat Lal Choube, the Inspector of Schools, Feudatory States (in the section on *Deshi Kasrat*), and the Deputy Inspectors of Jubbulpore and Hoshangabad (in the compiling of model patwaris' papers and the description of the Shahpur School Garden respectively).

Section II.—EXAMPLE OF A RURAL SCHOOL.

The village

6. Let us imagine ourselves to be approaching a typical village containing a typical school. The village consists of a straggling cluster of mud huts irregularly grouped along a street, with outlying hamlets for the lower castes. It possesses from six to eight hundred inhabitants. The majority of these are cultivators; and our approach is made between fields of young wheat and pulse. The school is primary and of the ordinary rural type, affording instruction to the children of the village in which it is situated, and to such as care to walk a mile or two from surrounding hamlets.

The school committee.

7. Our visit is expected; and, some quarter of a mile from our destination, we perceive a little group awaiting our arrival. This is the school committee, composed of the village elders. The *malguzar*, or landlord of the village, steps forward to greet us and introduces the *panch-log* (committee) one by one. The tall gentleman of somewhat military aspect is the Rajput proprietor of a neighbouring village, which, having no school of its own, sends its children here; the stout member, whose ears are encircled by two strings of gold plaques, and whose bright yellow cap is set rather rakishly on whitening locks, is the local *bania*, or merchant, whose duties in connexion with the school are to teach the boys the mysteries of cash-book and ledger; he of the black garb and spare features is the village accountant or *Patwari*, usually of the Kayasth or writer caste, who maintains the land records, and is expected to make the youthful husbandmen understand how fortunate they are, *sua si bona norint*; the rest are substantial tenants, whose hard hands and weather-beaten faces proclaim the rigours of their honourable toil.

8. A little procession is now formed, the *Kotwar* or village watchman, running in front with his spear of office; next ourselves, and finally the *panch-log*, who at first answer but shyly to our questions, but at length inform us that the school is managed by the District Council, that fifty boys read in it and attend very regularly; that the master is a good man, better than the last (some voices of dissent in the background), who

spoiled the school; that the *malguzar* gives great help and is so much interested in education that he deserves a letter from the Government informing him of the fact. Then would not the *malguzar* like a girls' school in the village as well? Surely some of the inhabitants have daughters who should learn to read and write? "No, *huzoor;* for we are poor men, and such daughters as we have must learn rather to grind and knead and cook and carry water." Meanwhile we have advanced up the little street; and these foes of female emancipation are released from the necessity of further argument by the appearance of the school-house, which stands, separated from the village by an open play-ground, under the shade of a giant *pipal*-tree. And before the garden-gate bows and scrapes the schoolmaster, clad in white pyjamas and turban, and a black alpaca coat.

The school building.

9. The school premises are ordinarily a square enclosure, the front half being taken up by a walled garden, the back by the house itself. The garden consists of plots cultivated by pupils and containing flowers, English vegetables and experimental crops. The house is fronted by a good verandah which leads into a bright, airy room; sometimes the front wall is practically done away with, and its place supplied by pillars or wire-panels. Both house and compound wall are well white-washed (by the Local Board); often they are the only white-washed things in the village, unless there be a police-house or a cattle-pound. To-day an arch of leaves spans the garden-gate, fringing a golden "Welcome" on red cloth; a row of flags and flowery festoons leads thence to the verandah, where more gold lettering calls down blessings on the visitors, the spelling of whose names and titles, even when in English, is quite curiously correct.

Organisation of the school.

10. Let us pass under the triumphal arch, between these simple, well-meant tributes, and the little groups of expectant villagers, into the building itself and see what it contains.

11. A rural school in these provinces contains five classes—(1) the infant class, (2) the first class, divided into two sections,

(3) the second class, (4) the third class, and (5) the fourth class, which ends the primary course with the so-called Primary Examination. In a school thus divided, a certificated master is supposed to be able to teach and manage forty boys; a monitor half that number. We were told by the committee that some fifty boys read in this school. Hence we expect and find both a master and a monitor. The former has studied either in a Normal school or in one of the local training classes; hence his general educational qualifications rise a standard or two above the fourth class; and he has imbibed some knowledge of school method and management. The monitor is a lad of the village, who has passed his Primary Examination and shows a bent for teaching; he takes the little boys, and at the end of this year will be sent for a couple of years' training at the Normal school, whence he will emerge a full-blown teacher. The minimum pay of a master begins at Rs. 8 per month; he may rise to Rs. 15 or even Rs. 20 in a rural school; but he is often a pluralist—village postmaster, pound-keeper, vendor of stamps and quinine; and these subsidiary posts may swell his pay to over Rs. 20. Such appointments, together with the headmasterships of Vernacular middle schools, are the plums of the rural teacher's service and are kept as prizes for the most deserving. The monitor draws from Rs. 2 to Rs. 4 per month. The duties to be performed are not arduous; for rural schools are primarily intended for "half-timers," *i.e.*, the sons of farmers or labourers, whose parents would object to their attending school all day. For, in the first place, they are required to help in light labour in the fields; and, in the second, if they do not early grow accustomed to exposure, they will, so it is believed, be unable to face the midday sun in later life. Hence the half-time system has been devised, giving such boys three hours of instruction in the morning (7 to 10 o'clock), the course comprising the "three R's" and a minimum of geography, with such purely utilitarian subjects as accounts and *Patwaris'* papers. Any rural school may, however, contain full-timers as well (though they are few)—the sons of the *malguzar*, the *bania*, the *patwari* and the schoolmaster himself,

who require a little more than the minimum of knowledge and can afford the time to return after breakfast for two hours' further instruction in agriculture and more advanced geography and arithmetic.

12. How is the process of instruction carried on ? A precise answer is impossible; because the modern system of inspection, which regards the process rather than enquires into the results, is, for two reasons, almost impracticable in an Indian school. Firstly, surprise visits are very hard to manage in a country where even the humblest throne is beaten upon by a fierce light, and where the means of locomotion are slow and cumbrous; hence preparation is always possible, and we fail to see the real thing. Secondly, even if we succeed in entering unobserved, the boys as well as the master are likely to be so much upset by the unexpected portent, that the former can only stare vacuously, and the latter, when asked to deliver a lesson, either waxes painfully rhetorical or collapses. But, could we assume the cloak of invisibility and stand unseen upon the threshold, what we *ought* to see is something of this sort. In the verandah are seated the infants and the first class, under the immediate care of the monitor, who is at present kneeling on the floor and showing the infants, who sprawl around him, how to form letters and count with cowries or seeds. Meantime he must keep half an eye upon class I, who are writing simple words and sentences on their slates; soon he will have to transfer thither his whole attention, and take each section through a reading lesson, while the infants play with their cowries, or disport themselves as they see fit. The second class is also taught by the monitor, but is just now inside, working out arithmetic questions under the master's vigilance. In half an hour, when the master has set down the two highest classes to writing work, he will take his turn in the verandah, and, while the boys of the second section of class I are labouring through an addition-sum, will turn his attention to the first section and the infants, thus leaving the monitor free to go inside and orally instruct class II in reading or the multiplication tables. At present, however, he is engaged with his two

proper classes, the third and fourth; and, while the former writes copies, he is explaining the globe to the latter, or questioning them in the lesson they have prepared overnight at home. All this requires carefully constructed time-tables; and, even so, the criticism is likely to be that the school, especially for so small a staff, is too much sub-divided; for (class I being in reality double) there are practically no less than six standards.

Methods of instruction.

13. As regards method and class management, strict rules of guidance are laid down in the training classes and normal schools; and books upon these subjects have been published in the Vernacular by the Department. Generally speaking, class-answering is in vogue (perhaps too much so) in the small classes; in classes III and IV we find individual answering and taking of places, on the results of which the monthly class-order is made out. Cram, learning by rote and unintelligent instruction of every kind are discouraged in favour of ocular demonstration and thorough comprehension. The infants must be taught by means of pictures and objects; the elements of arithmetic are explained with reference to the "ball-frame" or to bags of cowries. Geography must be illustrated by a walk to the tank or the river, and the discovery of miniature islands, capes and gulfs. Understanding of the *Patwari's* map is attained by an excursion to the fields; botany may not be attempted without the dissection of leaves and flowers, nor agriculture without the display of prescribed apparatus. Above all, the constant use of the black-board, the map and the picture is insisted on. So much for precept; but, in practice, the native teacher is often wedded to ways that result from centuries of *pundit*-lore—the droning of unintelligent repetition, the despotism of the *ipse dixit* that scorns, because it fears, an explanation; still, training has already effected much; and uncertificated teachers are rapidly being replaced by qualified men.

The infant class.

14. Now let us go from class to class, and observe of what boys they are composed, and what they know. And first the infant class, because here commences the school career, and

because, as it is in the verandah, it is the first to catch our attention. As we mount the steps, the little fellows stand up, and, at the word of the head-boy (distinguished by a badge on the arm), make a salutation, *Salaam, ek, do.* The infants are aged five or six; in remoter villages, their costume will be limited to a rupee or a string of beads; they sit on the floor in a semicircle in front of a portion of the wall on which are hung cards of letters and other simple appliances. These letters are four or five inches high, and formed with seeds of the tamarind-tree sewn or gummed on sheets of white card-board. The seeds are large, round and flat, and of a rich brown colour well suited for the purpose. Not only are letters exhibited (in the Nagri or other script—for plurality of language is a difficulty in a province within whose borders are spoken Hindi of several dialects, Marathi, Urdu, Uriya, Guzarati and Telugu), but also numbers and simple figures, the square, the circle, etc. Each infant possesses a bag of about a hundred similar seeds, with which he forms these letters, numbers and figures on the floor, and learns their names. This achieved, a shallow trough of sand is placed before them, where they trace the same with their fingers. Counting and simple addition are taught by means of the tamarind seeds. There is a collection of pictures of animals and objects, the latter generally the handiwork of the master. There are also painted models in clay or lac of common fruit, vegetables, etc.—the mango, guava, custard-apple, melon, brinjal, etc.; all these the children are accustomed to recognise. In addition to these activities, the infant is taught stories, songs and games. This little fellow will tell us in the broadest *Bundeli* how *"Ek raja hathe aur ek rani hathi"* and how Nal lost his kingdom to Pushkar by gambling and suffered in exile with his queen Damyanti. The coryphœus is next called upon for a song, but develops a sudden coyness, till he is turned with his face to the wall, not by way of disgrace but to rescue him from the disturbing contemplation of ourselves; then, after various wrigglings and contortions he begins with considerable vivacity and self-possession, *"Suraj nikala; hua sabera,"* to which all the infants rejoin in chorus; and so on

through all the list of duties which a model infant will perform in the course of the day. But the corypheus is really in his element when a game is suggested, and he sits as raja while the rest make their doggrel petitions; or he leads the Indian equivalents of blind Hooley and Catch-who-can—somewhat milder sports than those of Europe, but admirably suited to amuse the juvenile Hindu.

15. We may now pass to the more staid sections of class I. Class I. Of these, the first section is lower than the second; here the boy first becomes the proud possessor of a slate and a pencil and reads and copies letters no longer from any used models, but from real printed sheets. He will count to a hundred, and write, perhaps, to fifty. In the second section he rises to a book graduated from simple letters, through compound letters, words and simple sentences, to easy stories. He learns a little poetry of the didactic oriental type, writes to dictation on his slate, figures to one thousand and solves simple sums of addition and subtraction. He is also practised to do mental calculations in concrete numbers. The only thing over and above the "three R's" which is expected of him is a little simple kindergarten drawing. One side of a blackboard, as likewise one side of each boy's slate, is permanently ruled into squares. The monitor describes conventional figures on the squares of the board; and the boys copy on their slates.

16. Leaving these classes on the verandah, we now step in- Interior of the school. side, where the second, third, and fourth classes await us. The room is white-washed, and the walls are tarred for some three feet from the ground. Above this are hung the maps—the school plan, the village area, the district, the Central Provinces, India, the world. There are brightly-coloured prints of the King, Queen and the Royal Family; often too, of the potentates of other nations; portraits of Viceroys, of Mr. Gladstone, and all sorts of celebrities; perhaps prints from an old "Graphic" or "Black and White" that have found their way into the wilderness; specimens of manual training brought by the master from his training class; a printed curriculum, the list of committee members and the monthly statements.

Above these, again, are lines of moral texts. The floor is strewn with bamboo mats for the accommodation of the boys; at the upper end is a carpet (*borrowed for the occasion*); but the table, chairs, and bench for seating the committee and ourselves are a part of the school furniture. In one corner stands the "ball-frame," in another the black-board; a window sill supports the simple agricultural apparatus—enough to show practically the effect on plants of different solutions, how plants in the light give off oxygen, and how we can recognise our breath as CO_2 and water-vapour. On a shelf is a series of clay pots, containing specimens of all the soils found on the village area—*mund awwal* and *doyam, patharua* and the rest. On the table is the globe—and a very fair one, manufactured entirely by the master while under training—and several vases of flowers for our delectation. Here let us rest, while the committee, seated on the unaccustomed bench, gradually draw up their toes into a squatting position; and call the classes to us one by one.

17. The second class is composed of little boys of seven to nine years. They merely continue the work started in class I. Their Reader (the second) is, like all the Readers for Primary and Vernacular middle schools, entirely the work of the Department. In this standard it contains little stories, some Æsop's fables, a few lessons on simple objects, pieces of advice, and some verse. Reading is supposed to be done slowly, word by word; but masters are often ambitious, and make the class attempt continuous and intelligent reading. The subject-matter is generally understood, and the children can repeat the stories in their own words. Dictation is written from the book, and copy-writing is begun. The four simple rules of arithmetic are known; and mental arithmetic is a speciality of this class, comprising, as it does, plain tables to 40 × 10, concrete questions on the same and on addition and subtraction; fractional tables, 20 × $\frac{3}{4}$, $1\frac{1}{4}$, $1\frac{1}{2}$, $2\frac{1}{2}$, $3\frac{1}{2}$, and $4\frac{1}{2}$; and simple weights and measures. Kindergarten drawing is continued on slates.

18. In the third class a distinct advance is made. Not only does the prescribed Reader contain the usual stories, fables and

poetry (sixty lines of which must now be committed to memory and explained), but it is stiffened by several little series of lessons on an instructive subject—agriculture, sanitation, elementary history—the facts and outlines of which are to be assimilated. Manuscript writing is also put before the boys, so as to practise them in deciphering such letters, deeds, etc., as may come under their perusal in the future. Dictation is set from unseen passages; and, while the course of arithmetic is continued through the compound rules and square tables, the writing and comprehension of a *roznamcha* or simple cash-book of accounts, is added. A beginning is made in geography —the points of the compass and the plan of the school-house, the map of the district, simple definitions and explanation of the globe; the plan of the school must be copied by each boy; and he is expected to sketch it from memory on his slate. More than this, "full-timers," if there be any, first appear in the third class (all boys in lower classes being necessarily "half-timers") and have the choice of various optional subjects.

10. The work of the fourth class merely continues that of the third. Let us call the boys round us and discover what they know. They will first read us a passage from the fourth reader—a chapter of Indian history, advice on ploughing and irrigation, a lesson on letter-writing, or a simplified version of part of the beautiful "Hitopadesh," the "Uncle Remus" of past centuries, in which the adventures of the pigeon, Chitragriv, and his friend the rat, or of the antelope, the crow and the jackal are interlarded with aphorisms memorable alike for their matter and their expression. Next we shall ask them to recite a piece of poetry, two by two, singing it in one of the popular *rágs* or chants. This done, we shall question them on the meaning—the transposition of the words into prose order, verbal translation and general intention. To comprehend the difficulty of their poetry it must be remembered that, in Hindi (as in most other Eastern vernaculars) versification affects a poetic language, as far removed from the colloquial of to-day as are Langland or Chaucer from modern English, and not commonly understood outside the province of Oudh. Class IV

Not only has it peculiar case and verb endings, but the vocabulary is highly Sanskritic. Terseness carried to obscurity, an unnatural order of words and sometimes a wealth of allusion, do not tend to make matters easier. Yet the labour is not useless; for the knowledge of a little poetry is an accomplishment prized by the village elders.

20. We next turn to manuscript work, and shall be probably surprised to find that several of the boys can readily decipher any one of a file of vilely-written letters, orders and post-cards such as reach the schoolmaster and his friends. Even transliterated English words are generally spelled out correctly—"Curriculum," "Municipal," "District Council," "Head Master." Then they will display to us the model letters they write, with the proper *Shris* and *Namaskars* for each relation or caste. Next they produce their *Patwaris'* papers; this is one of the most important and complicated subjects in class IV and demands some explanation. The master takes from the *Patwari* copies for school use of the two most important of the village records—the *Khasra* or list of fields, with columns for nature of soil, acreage, use other than cultivation, landlord, tenant, sub-tenant, crops, area sown, area fallow, and for how long fallow; and the *Jamabandi*, or list of cultivators' holdings, with their respective fields, their rights over them, statement of rent, arrears, and so forth. The boys, again, copy portions of these; and each has by him a facsimile of the first few pages in the records, and knows the kind of information to be looked for in each column. Next, a tracing of the village map is taken for the school, and each boy is taught to know the position of his paternal acres, as well as of points of interest in the village area, such as tanks, streams and hillocks. He is likewise required to draw a miniature map showing these features. Two or three times a year, the *Patwari* takes the fourth class boys out into the fields with the map, shows how the two answer to one another and explains the terms of measurement, and the kinds of soils, examples of which, as already stated, are likewise kept in the school. The final stage is to induce the

young farmer to comprehend his status, his legal rights, the precautions to be taken at the time of paying rent, the conditions under which improvements are made, what kind of new land he should take up, etc. This, involving as it does some comprehension of legal and technical matters, is a difficult task; and we shall probably find the boys not quite clear as to how many legs has a *malik-maksuza*, or in what district a paternal uncle can inherit from a deceased occupancy tenant. Still, it is undeniable that the whole course of instruction gives the rising generation an insight into their position in that most vital of matters—the tenure of land.

21. The fourth class generally write well and correctly to dictation: they continue copy-books and compose imaginary letters.

22. The arithmetic course includes rule of three, the native method of calculating interest, which is almost equivalent to our "Practice," enough of decimals to enable the boys to understand the acreage entries in the *Khasra*, etc. But time is pressing and we have no leisure to set them to slate work; let us therefore test their knowledge in two important items—mental arithmetic and *mahajani* accounts. The former, as taught in class IV, consists of the application of the so-called "Gurus"—rules founded on numerical relations between weights and measures, and generally used by tradesmen for rapid calculation in the bazaar. For instance, if we ask this boy what is the price of a dozen turbans at fifteen annas each, he does not multiply 15 by 12 and reduce the result to rupees, which would take time, but answers at once Rs. 11-4-0, because he knows that he has merely to take three-fourths of 15 in rupees to find the answer. Again, if we ask the price of a seer of ghi, a maund costing Rs. 25, he will not reduce the rupees to annas and then divide by 40, because all he has to do is to divide the original sum by $2\frac{1}{2}$ and put the quotient in annas. Of *mahajani* accounts, we have already said that some *bania* on the school committee is expected to help in teaching them, and that a beginning is made in class III with the *roznamcha*, or daily cash-book. The two other account books

which are deemed essential—the *pakki rokar* and the *khata*—are written in class IV; but, of these, the *pakki rokar*, which is merely an abridgement of the *roznamcha*, written up weekly, fortnightly, or monthly as the case may be, is of value only in large houses of business and so may often be dispensed with by rural pupils who will have only the *res angusta domi* of a small tenant to look after. The *khata* or ledger, however, is necessary. The method of accounts is singularly simple, and largely resembles that in common use in Europe. The *roznamcha* shows daily income and expenditure in two columns; a daily balance is struck and carried forward. The *khata* contains a page devoted to each vendor or customer, with columns to and against his credit; the items are extracted from the *roznamcha*, and the number of the cash-book page is quoted for ready reference. The two important things are to see that the boys can cast a balance and transfer items correctly and exhaustively from cash-book to ledger. Though this form of instruction has not long been started, it has proved a success in all the better-instructed schools. The boys will take pride in showing us their books, bound with string after the manner of the true *bania;* and we note in them (a curious mixture of superstition with business method) the propitious "Shri" prefixed to every balance (to further its increase) and standing at the head of every page. (Another curious habit observable in schools is the reverence paid to slates and books as embodying Ganesh, the god of learning. Should a little boy inadvertently touch his slate with his foot, or should he, by a good answer, elicit the approval of teacher or examiner, he will bow towards it rapidly, touch it with his right hand and convey the hand to his forehead in token of conciliation or gratitude.)

23. It only remains to see what the class knows of geography. The curriculum includes a general knowledge of the *Patwari's* map, a few salient facts concerning the size and shape of the earth and the phenomena of day and night, and a rough idea of the principal countries of the world, with special reference to the British Empire. In the last of these there is, no doubt, a good deal of the parrot-like repetition so inherent and so

deplorable in the teaching of geography; but something has been accomplished if the boys can inform us that Aden is a coaling-station or can point out intelligently the routes from London to Bombay.

Full-timers.

24. Among the lads of twelve or fifteen years, mostly sons of cultivators, who compose this class, there are a few whose dress and general appearance proclaim them members of a slightly higher order of society—the malguzar's son with a bit of cheap but effective jewellery round his neck; the young *Patwari*, who hopes one day to step into his father's shoes; a little *bania* in rather foppish attire, precocious at mental arithmetic. These are the full-timers, who, after their midday meal, will undergo some further tuition in L. C. M., G. C. M. and vulgar fractions, the geography of the Central Provinces and India, and one or other of the optional subjects permitted.

Discipline.

25. One word about the discipline of the classes. The Hindu lad in rural schools is mild and easy to manage. The town boy, especially in schools of higher standard, is apt occasionally to be disagreeable. In the classes we have seen to-day, the most striking characteristics are the self-possession of the boys, their quiet way of doing things, and the methodical and orderly manner in which the class moves from one part of the room to another, arranges itself for reading or for slate work, without any command from a master, but solely at the word of its head-boy. When we address the boys, they may prove shy for a few moments; but this soon wears off; and all we have to find fault with in this direction is that the master is over-zealous to check, as being unseemly, a harmless laugh elicited by some absurd answer or quaint incident.

Registers and fees.

26. Let us now turn the boys out into the play-ground, and while they form up for a display of drill, glance at the registers which are laid ready for our inspection. The first of these need not detain us long; it is the register of admission and discharge, which shows the date of each boy's entrance to the school, his age and parentage, the date and reason of his leaving; and serves as a permanent summary of his school career. The attendance register is more important, giving, as it does,

the number of attendances of each pupil during the current month, the total number from the beginning of the school year up to the current month, his place in the class, and his conduct; it serves also as the register of fees, showing the assessment, the amount of arrears, if any, and the sum paid during the month. In rural schools, where fees are spent by the committee on petty repairs, purchase of maps or appliances and improvement of the garden, a small subsidiary book is kept in which are noted the total of monthly collections and details of their disbursement. A word about these fees. For purposes of assessment, parents are divided into four grades—first, those whose annual income exceeds Rs. 2,000; second, those whose income exceeds Rs. 360 but falls below Rs. 2,000; third, those whose income is below Rs. 360 but exceeds Rs. 120; fourth and last, those who cannot be shown to earn even Rs. 120 a year. These classes must pay for the schooling of a child a monthly fee of 8 annas, 2 annas, 1 anna and half an anna respectively. In rural schools the bulk of the pupils naturally pay at the two lowest rates; but even so, in specially poor villages, there is often difficulty in collection. To meet such cases concessions are made. Ten per cent. of the number enrolled may read free, provided the parents' incomes do not exceed Rs. 75 a year; and this limit of percentage may be widened by the Director's sanction. Truly the cost of education is not excessive. And yet we sometimes find schools with a solid sum of fee-savings, enough to build a compound-wall, start a garden or buy an entire new set of expensive maps. Another register shows the class-promotions entered above the name of the promoting authority, generally the Deputy Inspector; yet another informs us of the *agenda* and *acta* of committee-meetings. Finally, there is the visitors' book, in which the remarks of inspecting officers, the Director (should his tour lead him thither), the District Officer, the Inspector, the Deputy Inspector, the Tahsildar, his Naib and the Local Board Member are recorded.

Physical instruction.

27. But the school is drawn up ready on the open space before the garden. It will do "arm-flexions" and "extension motions," and the somewhat appalling practice prevails of using

the English words of command as well in these exercises as in turnings and "stand-at-ease," etc. It is not, however, on these that the efforts and interest of master and boys are centred, but on *Deshi Kasrat*, a series of indigenous exercises systematised and made the subject of a treatise about four years ago. It is not too much to say that these exercises are in every way admirable; they are popular because a part of the genius of the country; far more amusing and picturesque than any similar English system; harmless, because the body is trained by a carefully graduated series for the really difficult feats; and strengthening, because the *dands* (of which it is chiefly composed) have not only been for centuries the recognised practice by which Indian wrestlers develop and retain their muscular power, but would appear to have suggested some of the exercises highly recommended by Sandow. The system is divided into six parts:—(1) *Nihurs* or turnings with limbs in various positions, (2) *Baithaks* or squatting and rising in various ways; (3) *Dands*, or lowering and raising of the body on hands and feet, (4) and (5) *Daurs* and *Chals* or running and walking in unnatural and difficult ways, and (6) *Kulants* or acrobatic feats of twisting the body and turning back somersaults on the hands. To be understood, *Deshi Kasrat* must be seen; and the display, as we watch it now, is highly effective. The boys, clad in a uniform of red or yellow bathing drawers and caps to match, are drawn up in open order. Let us see one or two *dands*. The monitor, or head-boy, shouts "*Sinh baithak dand* (*i.e.*, crouching-lion *dand*); one, two, three." At the words of command, generally well together, the lads crouch, legs drawn in, arms stretched forward on the ground like a lion *couchant;* throw the feet back so that the body stretches full length along the ground, just supported on palms and toes; then raise the chest till the head is thrown back, from which position, on the repetition of "one" they will return to the crouch. In like manner, they will show us the "monkey *dand*," a difficult exercise when properly performed, the chest being lowered to the ground on the sole support of the arms, at the moment when both legs are in mid-air, one being shot out to full length, the other doubled up. There are also the "wheel

dand," "one-leg *dand*," "body-balance *dand*" and others culminating in the "one-hand *dand*," a difficult feat which only selected boys can achieve. Among chals, the "*maggar*" and the "*bichchhu-chals*," or crocodile and scorpion walks, are entertaining, the latter consisting of walking on the hands, the body curved back, and the feet dangling over the head.

The garden.

28. The boys now file back into the building; and we are free for a moment to examine the garden, with its beds of marigold and a few rose-trees. It also contains a very creditable display of English vegetables, generally cabbages, cauliflowers and tomatoes, the seeds of which are supplied by District Councils with a view to encouraging the cultivation of these wholesome articles of diet. And here the master shows us with pride plots of wheat and pulse raised by the boys themselves and illustrating the effects of different soils or manuring on the same crop. If he is very skilful, he may have rigged up a "Persian wheel" above the compound well as a lesson in irrigation.

Prizes, etc.

29. We now re-enter the school for a few moments to see the great tray of sweets, provided by the committee, distributed to the boys, who receive them with profound gravity and bind them up in their caps or a corner of their nether garments. A few books are disbursed by way of prizes to good scholars and regular attendants or to boys too poor to purchase, to which we add a rupee's worth of coppers. The *Sir-panch* then presses upon us *pan-supari*, cloves, cardamoms and other delights, and would fain smear our clothes with *attar* of roses. this simple hospitality concludes in a truly pretty way, when a stick bearing a variety of long garlands is introduced, and we are invested, each according to his due, with chains of flowers sometimes reaching almost to the knee. We are now free to depart; and, after numerous salutations from pupils, master and committee, get clear of the village and renew our journey.

Section III.—HISTORICAL SKETCH.

Education before the formation of the Central Provinces.

30. A primary rural school has now been described. The next task is to sketch the machinery which keeps the system going—the various factors which combine to produce this effect.

31. The territories now comprising the Central Provinces began to fall under British rule before 1817, but they were not welded into a separate administration till 1861. Saugor and the Nerbudda Districts, the most advanced of the three divisions into which these territories naturally fall, were then attached to the North-West Provinces. Even in these districts, which we may already call the Northern Division, the years of anarchy preceding Sir John Malcolm's campaign, the raids of Pindaris and the internecine strife of the Central India Chiefs, had reduced the country to such a condition, that, as readers of his delightful "Memoir" are aware, the bare preservation of life and property provided an interest exclusive of all others. Nearly all the educational enterprises of which we hear were the result of private initiative. The boldest of these was the ill-starred attempt made in 1812 by six German missionaries to found an agricultural mission and schools among the Gonds at Amarkantak. With the setting in of the rains among those malarious jungles, four of the missionaries died in the course of five days. The survivors with difficulty made their way back to the town of Mandla.

32. As a result of the Educational despatch of 1854, the districts of this northern division were made into an educational circle of the North-West Provinces, with headquarters at Saugor and one Lieutenant Helbert as the first Circle Inspector. His special duty was to establish village schools in the districts of Hoshangabad, Saugor, Narsinghpur and Jubbulpore, for which purpose a sum of Rs. 12,000, afterwards increased to Rs. 35,000, was granted by Government.

33. In Nagpur, the period from 1820 to 1862 was one of retrogression in educational matters; the vernacular ceased to be the medium of official communication, and the introduction of a foreign language in the courts acted adversely upon the Marathi-teaching schools. "The schools were held, some in the front verandahs of shops, others in front of the teacher's house, others below trees, others in cattle-sheds, the teacher either too old to earn a livelihood by other means, or who, at other work, had not met with success. Several men who had

set up schools in the districts were sepoys discharged from the Raja's army, on its reduction in 1854-55. One tutor to a young Zamindar was a retired tailor."

34. Similarly in Chhattisgarh, Lieutenant Trevor, the first Inspector of Schools in that circle, describes a specimen of these as "represented by four or five boys of one caste gathered round a decrepit old man who can scarcely read himself, and learning the letters of the alphabet—a school in which the scholar, passing from the alphabet to transcribed passages from the Shastras or Koran, spells out a few pages, which, daily reiterated, become part and parcel of his memory; and a singsong proficiency, which, together with such amount of cyphering knowledge as may suffice for the transactions of a village bazar, lifts him to a level with his teachers, and puts the finishing stroke to his education."

Initial organisation.

35. Such was the state of affairs in the rural tracts, when, in 1862, the Educational Department was constituted, the first Director of Public Instruction being Captain P. Dods. (It is curious to note how, in these early days, almost the entire superior inspecting staff was drawn from officers of the army.) The material at hand being practically *nil*, the administration, aided by the New Department, had to carve out a system of its own. The main lines, wisely and strongly laid down by Mr. (afterwards Sir Richard) Temple, are those along which the educational system of the province still runs; and such success as has attended our primary schools is largely due to that broad-minded beginning and the homogeneity of the policy pursued. In his Resolution upon the first Report in 1863, the Chief Commissioner insists upon the co-operation of the civil authorities, the educational officers and the people. The classification of schools and the general rules governing finance are, in embryo, those still in force to-day. The training of teachers was at once insisted upon, and ten Normal schools were opened.

Examinations and improvements in aided schools.

36. Government and aided schools were now rapidly started throughout the districts. In 1871, there were 1,950 schools and 83,538 scholars, involving an expenditure of Rs. 5,30,668. But difficulties of communication, combined with the absorbing

duties which the introduction of a new system involved, left but little time for attention to details. In that year, a strict system of examinations was initiated, intended on the one hand to fix the grading of departmental schoolmasters, on the other to determine the grant which each aided school should receive. Later changes touching these latter institutions were the appointment of committees to aid them, and the introduction of a combined system, under which the master's pay became partly a fixed sum, partly the examination result-grant. The permanence of aided schools was thus largely secured, and the improvement effected is described (1882) by Mr. Thompson, who has left the following picture of an aided school of the old type: "The master is deaf. He has no books and the boys have none. The school meets in a dirty old verandah. There is no school apparatus. The boys are ignorant and make little or no progress. Order is maintained by the use of a stick. The master has collected 40 boys, and manages to extract fees from them in money or kind. *Such* (the italics are mine) *were nearly all the indigenous venture schools some 14 years ago;* but now they are improving and approximating slowly to Government schools. As the old race of teachers dies out, and their places are taken by men trained by the Education Department, improvement will be general and rapid. The system of payment by results has influenced indigenous education. It has extended and improved the course by the addition sometimes of geography, always of arithmetic, by requiring boys not only to read, but to understand what they read. It has improved the spelling and added to the information of the pupils by giving them useful books to read. In some schools a portion of the grant is set aside for maps and school furniture, and in most schools books are given instead of paying the whole grant in money."

Transfer of rural schools to management of District Councils.

37. The year 1884-85 is epoch-making in the educational history of the province. The investigations of the Education Commission of 1883, and the establishment of local self-government, while securing for education a popularity hitherto unknown, at the same time handed over the great mass of

departmental schools to the management of local bodies. The details and modifications of this scheme will be set forth in the next section. It is here sufficient to note that all village schools, save those privately managed and supported by aid, passed from the immediate control of Government into that of the District Councils. Even aided schools were placed under the quasi-control of these bodies, and finally, in 1902, became, with negligible exceptions, Board institutions.

The half-time system and the rural curriculum.

38. But, in the meantime, an even more important change had been effected in the interior organisation of village schools. This consisted in the framing of the rural curriculum and the institution of the half-time system. As far back as 1893-94 it was recognised that, notwithstanding the many improvements introduced into primary schools, the vital point of consulting the wants of the ryot had not been sufficiently considered; and a movement was set on foot to remove the defect. The scheme however did not become general; and, in the Resolution on the Report for 1897-98, the Chief Commissioner, Mr. (afterwards Sir Denzil) Ibbetson, complains of the opinion unanimously held by District and Educational Officers "that if official pressure was withdrawn, the attendance at village schools even in the Marathi-speaking tracts, where education is generally speaking most valued, would fall off enormously, especially as regards the children of the cultivating classes. He has heard of the unpopularity of the village schools, of complaints against the pressure exercised, of stamped petitions presented to the Deputy Commissioner for permission to remove a boy from school, and that attendance there is often regarded as a species of Government *begar*.* After making all due allowances for the exaggeration which is never absent in such matters, the fact remains that before such semi-compulsion can be justified, it behoves us to make very sure that the education which we thus force down more or less unwilling throats is suited to the needs of the people, and that their objections to it are not based upon something better than mere ignor-

* *i. e.*, compulsory service; la corvée.

ance and prejudice. The objections of the cultivating classes to education for their sons, in the Central Provinces as elsewhere, seem to be that it disinclines them for their hereditary pursuit by making them aspire to be Munshis rather than to follow the plough, that it unfits them for it physically, by depriving them of the hardening effects of work in the fields at an early age, and that it involves a serious loss in the deprivation of their services as helpers. In the Central Provinces an important step has already been taken towards meeting these objections, by prescribing a separate primary course for rural schools. The question which the Chief Commissioner would wish to suggest for consideration is, whether a still further advance in the same direction would not be advisable. What it is most desirable to give the son of an actual cultivator is ability to read and write sufficiently, a knowledge of arithmetic *after native methods* such as will enable him to follow his accounts with his shop-keeper and his landlord, some familiarity with the manner in which his rights and liabilities are recorded, and such general development of his intelligence as will result from the use of judiciously framed readers, and perhaps some simple object-lessons. It seems that it ought to be possible to accomplish this much in half-time schools, the boys working say three hours a day only, which would allow of their going into the fields, learning their work, and becoming accustomed to the sun. It is true that the half-time system is already permitted in certain cases; but, so long as there is option in the matter, it is doubtful whether such a scheme can ever succeed. There is always opposition to be overcome from three quarters; in the first place, from the subordinate officials of the Education Department, trained up in the so-called literary curriculum and accustomed to fixed standards of knowledge, by which it would be impossible to judge a half-time school; in the second place, from the schoolmaster himself, who is anxious to show good results, and in the third place, from those malguzars and baniyas who desire the usual course of education for their sons. But patient insistence might overcome the two former, while the last would have to be dealt with on the circumstances of each

case. The most that it would be wise to do at first would be to establish a few such schools as an experiment."

39. As the result of these remarks, a conference met at Jubbulpore in March 1899. It included Mr. A. Monro, the present Director of Public Instruction, and Mr. J. B. Fuller. A scheme was formulated, which, after tentative application, was enforced in all primary schools. Its effect was two-fold. On the one hand, the half-time system was made the rule, though any half-time school might contain full-timers who, at the wish of their parents, attend twice a day for instruction. On the other hand, the highly practical curriculum was devised, of which a description has already been given in Section II, and which will be referred to again later on. The novel features were manuscript reading, *Patwaris'* papers and *mahajani* accounts. The policy thus set on foot was furthered by Mr. (afterwards Sir Andrew) Fraser, during whose Chief Commissionership rural education rapidly recovered from the paralysing effects of the famines.

Summary.

40. To summarise:—the educational data which existed before the formation of the province were practically negligible. In 1862 education became a part of the State's responsibilities. The broad policy then laid down has been maintained until to-day. As the territories comprising the Central Provinces gradually settled down under British rule, it was found possible to introduce uniformity and organisation into primary schools. This resulted in a somewhat rigid system of inspection in Government institutions, and a complicated classification of aided schools. While affairs were in this condition, primary education was almost wholly handed over to local bodies. The change was one of control only; outside this, not an iota of the educational policy was modified, till, in the last decade of the century, the Administration realised that perhaps this policy was not quite the best suited for the majority of those whom it concerned. Then came the internal reorganisation of our schools and that reaction against "cram" which merged the aided in the District Council institutions. Two tendencies can be distinguished throughout the whole

period. One is the general decentralisation of authority, which, as civilisation progressed, naturally tended to devolve more and more from the Civil power upon the Department and the local bodies. The other is the shifting of the instructional ideal from the standpoint of the pedagogue and of knowledge for its own sake to that of the pupil and of common sense. The schoolmaster is required to prepare his boys no longer for an examination but for the battle of life.

Section IV.—ADMINISTRATION AND FINANCE.

Relations of controlling agencies.

41. We have seen how the control of primary schools was from the first placed on a broad basis and apportioned to the Civil authorities, the Education Department and the people. We have now to consider the relations of these three elements as they stand to-day.

(a) The Civil authorities.

42. *The Civil Authorities.*—At the head of these is the Chief Commissioner; next come the Commissioners of Divisions, Deputy Commissioners of districts, with their Assistant and Extra-Assistant Commissioners, and finally the Tahsildars or Revenue officers of sub-divisions. The Chief Commissioner is, in fact, the government; he is the ultimate authority in every branch of administration—the purely executive, because he is the highest executive officer and can even suspend a District Council for default in its duties, vesting its powers in any person he appoints; the financial, because he apportions the contributions to each district, and can give or withhold special grants for education; and the professional, because, with the advice of the Director, he gives the bent to educational policy. The Commissioner wields a financial control within narrower limits, criticising and modifying the budgets of the District Councils in his Division. He also exercises large, but vague, executive authority. "A District officer,* whether a Deputy Commissioner or Commissioner, is responsible for the state of education generally in his district, and the Educational Department is the instrument in his hand for carrying out this

* Chief Commissioner's Book Circular No. LIV, dated the 27th November 1868.

responsibility." The powers of the Deputy Commissioner are executive. He exercises general supervision over the District Council and the Local Boards; he can suspend objectionable action taken by these bodies, or carry out, at their expense, any urgent action which they cannot perform with sufficient celerity.

(b) The Education Department.

43. *The Education Department.*—This is likewise subordinate to the Chief Commissioner. At its head is the Director of Public Instruction, whose duty it is to direct the Department and enforce the educational policy of the Administration. His powers are partly executive, for the inspectorate and the staff of Government and Anglo-Vernacular schools are under his orders; partly financial, for he can make grants up to Rs. 500 without special sanction of the Administration; but chiefly professional, and that in two ways, for he is the educational adviser of the Chief Commissioner, and, secondly, has to pass on in detail the orders of the Administration and see to their fulfilment. Under him are three Inspectors who range over very large circles and whose duty is mainly to organise and unify the work of the Deputy Inspectors. The Inspector is strictly a departmental officer, though, of course, under the orders of the Chief Commissioner and the vague control of the Commissioner. Ranging, as he does, over several districts, he is independent* of the Deputy Commissioners and is thus spared the embarrassment of serving many masters. But he would naturally consult the Deputy Commissioner in any scheme of magnitude touching a certain district, and would feel himself largely bound by the Deputy Commissioner's decision. The Deputy Inspector is the product of the Department, the servant of the Civil authorities. He is an instrument which the former has wrought, and now, though placing it in the hands of the District officer, undertakes to keep sharp and clean; for the appointment, promotion, punishment, transfer, leave (save casual leave) and dismissal of the Deputy Inspector rest with the

* "There is nothing to justify the issue of direct orders, as from a superior to a subordinate, by the Deputy Commissioner to the Inspector."—Chief Commissioner's Book Circular No. XIV of the 7th May 1869.

Department, which also receives and appraises his work-statements, judges of his results by inspection, and reports on him to the Deputy Commissioner. The position is slightly anomalous. As a matter of fact, however, friction over the subordination of the Deputy Inspector is unknown. As for his powers, he introduces the general educational policy into schools, instructs the schoolmasters, checks registers, etc. But, since the Council and the Boards cannot be expected to know the qualifications of the many village masters under them, the executive powers of the Deputy Inspector in the sphere of appointment, promotion and degradation, are really very large and have recently been legally recognised. In such matters, the School Board and the District Council generally follow his advice. Friction, though rare, is not unknown; a little tact on the part of the Deputy Commissioner is generally sufficient to remove it.

(c) Local bodies.

44. *The Local Bodies.*—These bodies, constituted under the Local Self-Government Act of 1883, may be very roughly compared to County Councils in England. One District Council is elected for each district; one Local Board for each *tahsil* or sub-division of a district. Within these limits their powers extend over the whole area, exclusive of cantonments and municipal towns. They are the popular element in our Administration and contain representatives of various classes:—(1) Of landed proprietors. Each Local Board area is sub-divided into circles, each of which sends one head man, elected by all the head men of the villages in that circle. Each Local Board again sends at least two representatives, who are elected by the Local Board members and half of whom must be head men, to sit on the Council. (2) Of trade and the professions. The number of these members is fixed by the Commissioner; and the electing body is enrolled by the Deputy Commissioner and (in the case of the Council) must consist of persons resident in areas outside the Council's powers. (3) Of the Government. Though official control over Local Bodies is to be exercised from without and not from within (hence officers of higher standing do not sit on them), the administrating

power in India looms so large that it must have its representatives. These may not exceed one-third of the total number of members; they are nominees sanctioned by the Chief Commissioner; they are not all necessarily, or even usually, officials; but we find Tahsildars on Boards, and generally an Assistant or an Extra-Assistant Commissioner on Councils. A member elected in any of these ways retains his office for three years and is then eligible for re-election. He receives no pay even if an office bearer; but he may sometimes draw travelling expenses.

45. To the bodies thus constituted is entrusted (with certain reservations) the maintenance of minor roads, of schools, hospitals, dispensaries, markets, rest-houses, serais, plantations, cattle-pounds and ferries.

46. In the performance of these functions, the relation of the Boards to the Council is one of subordination, especially in financial matters. The attitude of the Council is one of consultation and control; that of the Boards is executive, the limit of its powers of expenditure being fixed by the Council. Yet the Council may interfere, reversing (by a majority of two-thirds of its number) any resolution of the Board, or enforcing the accomplishment of neglected duties. The more precise definition of relative powers varies locally, the higher body delegating more or less of its authority to the lower. To facilitate the special administration of schools, a School Board is attached to each Council, and holds towards it loosely the same relationship in educational matters for the district which each Local Board holds for general (including educational) matters for the *tahsil*. The School Board consists of such Council members as have special interest in education; outsiders who are likely to give useful advice may also be appointed to sit on it. The election of members and the nomination of a Secretary are in the hands of the Council, subject to the Deputy Commissioner's veto. All questions relating to the appointment, promotion, reduction, suspension and dismissal of masters are in the first instance decided by the School Board. Its proceedings are then laid before the next meeting

of the Council, and it is open to any member present to raise a question as to any action taken by the School Board. If no such question is raised, the action taken is deemed to have been ratified by the Council.

47. In 1862, village schools had been placed primarily under the management of the Deputy Commissioner and his subordinates. When, in 1885, the local bodies became the chief controlling agency, the District Councils were placed practically in the same position in respect to education as had hitherto been held by the Deputy Commissioner. But their powers are strictly limited by the authority of the civil and the educational officers. In dictating the educational policy, the Council has no voice; it must simply follow out the curricula prescribed by the Administration, the enforcement of which is the task of the Department. It frames its own budget, subject to the control of the Commissioner and to the general instructions issued by the Chief Commissioner. It can appoint, transfer, grant leave to, suspend, fine, reduce or dismiss any teacher in its schools. But its executive powers in dealing with the staff are subject to supervision by the Deputy Commissioner; and similar powers, parallel with those of the Council, are (since March 20th, 1903) wielded by the Department. This arrangement, though complicated, may be expected to run smoothly; because Councils generally recognise the superior opportunities and competence of judging schoolmasters which are enjoyed by Inspectors and Deputy Inspectors. The construction and maintenance of buildings generally rests with the Local Boards. Matters of detail touching each school are in the hands of the School Committee, a body which has already been generally described, but whose precise powers must now be defined.

School committees.

48. A committee is attached to each school (for its composition see paragraph 7). Its members are appointed by the Local Board in whose area the village lies, but subject to the approval of the Council and the Deputy Commissioner. In practice, the Inspector, the Tahsildar and the Deputy Inspector often have to make appointments themselves; nor do the Local

Boards object, since these officers are able, by personal inspection, to see what is required and to supply it on the spot. The duties of the Committee are:—(1) To visit the school collectively at least once a month, recording their proceedings in a book, and individually at least once a week. Meetings are fairly regular and offer a useful opportunity for disposing of miscellaneous business. Individual visits, intended to ensure that masters are doing their work properly and that registers are not cooked, are very irregular (often less in number than the meetings) and very ineffective, because many of the members are illiterate and sometimes uninterested. (2) To secure regularity of attendance, enforce discipline, assess fees in accordance with the fee-rules and check and sign the expenditure of fee-receipts. The success attained as regards attendance and discipline depends on the Committee's attitude towards education, which may be one of enthusiasm, toleration or hostility. The checking of fees is almost invariably well discharged, their assessment generally so, but with a bias towards leniency and (but this is the exception) favouritism towards children of its own members. (3) To report irregularities, want of accommodation, etc., to the Local Boards. In practice, these duties are more effectively performed by the Deputy Inspectors. (4) To grant casual leave not exceeding three days to schoolmasters, the fact being reported to the Deputy Inspector. The construction and repair of buildings might well be added as a fifth function, though no recognised part of the Committee's work (see paragraph 76). The personnel (and with it the value) of these Committees varies immensely; one will comprise native gentlemen of wealth, position, title and education; another (in more backward parts) will consist of unlettered yokels who can barely sign the fee-register. On the whole, they perform their work well; but they require to be looked after by inspecting officers.

Local Board Members.

49. It remains to mention the work of Local Board Members (the head men whose election was mentioned above). Each is supposed to visit and supervise the schools lying within the circle which he represents. Some are very negligent; and,

save when the school is situated in the member's village, their influence is not generally large.

Summary.

50. There are, of course, a few schools in rural tracts still aided on the fixed grant system. These are rural primary schools managed by societies. But their number is insignificant. There are also girls' schools, which are now under the sole management of the Department; and the district of Mandla has no Council of its own. But the great mass of rural schools consists of District Council schools, which are administered on the plan above described. The ultimate authority in all things is the Chief Commissioner. The actual executive is the District Council. But from the former proceed two official hierarchies which control the latter. Of these, the Civil authority (of which the lowest grades that we need here consider are the Tahsildar and his Assistant) exercises general supervision over the Council and the Boards and is responsible for the state of education. The Department, down to the Deputy Inspector, has joint power of punishment with the Council, and absolute power touching the interior economy of the school (since the school committee is bound by detailed rule and the orders of inspecting officers). The village schoolmaster, trained by the Department and appointed by the Council, depends for his promotion, degradation or dismissal, upon both these bodies. From the judgment of the Council he can appeal to the Deputy Commissioner, from that of the Deputy Inspector to the Council, from that of the Inspector to the Director of Public Instruction.

Composition of the District Fund.

51. So much for general administration. It remains to treat of the question of finance.

52. It may be generally laid down that officers of the Education Department (together with the Departmental schools, High and Collegiate scholarships and most fixed grants) are paid direct from the Provincial Revenues; Municipal schools are supported by *Municipal Funds*, and *District Council schools* by District Funds. We are here concerned with the last. What, then, is the difference between Provincial Revenues and District Funds? The former consist of the produce of the various

forms of taxation, the principal of which is the land revenue. They are credited to a single account and, after apportionment by the Government of India, are administered by the Local Government. The District Fund, on the other hand, is made up from three sources:—(1) The education cess of two per cent. calculated on the land revenue and collected together with the revenue, but credited to a different account; (2) the road cess of three per cent.; (3) miscellaneous receipts from pounds, ferries, auction sales, fruit, subscriptions, etc. The money raised under these heads is credited into the local Treasury to the account of the District Fund. This fund is administered by the District Council, purely for local purposes, cheques being drawn on the Treasury as sums are required for disbursement.

53. The District Fund, being insufficient for the various works in charge of the Councils, is reinforced by a grant from Provincial Revenues. The amount of the grant differs for each district according to its circumstances and requirements. Once in three years a budget estimate is framed by each Deputy Commissioner in consultation with the District Council. The income and the expenditure are based on the actuals for the past three years, modified by any circumstances likely to arise in the current year. This estimate is submitted to the Commissioner and forwarded by him, through the Comptroller, to the Chief Commissioner, who then fixes the total of the provincial grant-in-aid, and its apportionment to the different district funds for the next three years.

Expenditure on education permissible from the District Fund.

54. Hence the District Fund finally consists of receipts under the three heads mentioned above, *plus* the contribution from Provincial Revenues. The next consideration is: What amount of this fund is expended by the Council upon education? The limit of expenditure on education was originally fixed at the total of the education cess, fees, subscriptions, and a portion of the Government contribution ear-marked for that purpose. If the sum actually expended fell short of this in any year, the balance was added in for calculating the possible maximum expenditure in succeeding years. In 1895* contri-

* Chief Commissioner's No. 7123, dated 20th September 1895.

butions ear-marked for special purposes were abolished; and a single contribution from Provincial Revenues was sanctioned for a term of three years. The arbitrary limit to total expenditure on education was also abolished, and the duty of seeing that the income of the District Fund was suitably allotted to the different objects for which it was raised was placed upon Commissioners. After the famines of 1897 and 1900, the financial dislocation of the past few years and certain contradictions in the instructions issued, called for a new ruling. This was made in 1901* and was as follows:—General control over the matter still rested with the Commissioners, who were to see that the claims of primary education were not neglected, but at the same time must not suffer the Councils to divert to this object more money than could be spared from other necessary objects of expenditure. A standard estimate was, however, laid down by the Chief Commissioner, who desired that expenditure on education should be taken at a figure not lower than the sum of the school cess, the Government contribution made in 1895-96 for education in each district, and estimated receipts from subscriptions. It may seem curious that, in this computation, fees are omitted; this point will be treated of presently. In 1895 the total contribution made from Provincial Revenues to all District Funds amounted to Rs. 1,14,659, of which Rs. 94,760 was allotted for the maintenance of schools, etc. Taking now a single district (Jubbulpore, which has an area of 3,912 square miles and a population of 680,585), we find that it received Rs. 4,160 of the Government contribution, the whole of which was to be expended on education. Remembering this datum, let us now consider the budget estimate of the Jubbulpore District Fund for any one of the three years 1903 to 1906. It is here appended.

* Chief Commissioner's No. 6206, dated 20th August 1901.

Budget Estimate of the Jubbulpore District Fund for any one of the three years 1903 to 1906.

Income.		Expenditure.	
	Rs.		Rs.
1. *Local Receipts.* Cesses—			
Road cess . . .	28,000	Refunds and drawbacks (in case of excess realisation) . .	10
Education cess . . .	18,665	Administration . . .	3,495
Miscellaneous Local Receipts—		Police (for management of pounds)	7,365
Interest	...	Education	27,100
Police (*i.e.*, receipts from Cattle pounds) . .	15,000	Medical (for Dispensaries, Vaccination, Village Sanitation and Contribution to Lady Dufferin Fund) . . .	6,220
Education (*i.e.*, subscriptions, etc.) . . .	300	Scientific and other Minor Departments (for Veterinary dispensaries, Arboriculture and Statistics) . . .	2,250
Medical (from dispensaries, etc.) .	20	Superannuation and Pension (for Council's servants) .	305
Scientific and other Minor Departments . . .	355	Stationery and Printing . .	500
Receipts in aid of superannuation and compassionate allowances (to Council's servants, etc.) . . .	...	Miscellaneous . . .	200
Miscellaneous . . .	4,500	Civil Works	17,224
Civil works . . .	4,750	Contribution to Provincial Revenues	12,395
2. *Contributions from* Provincial Revenues . .	5,474	Contribution to other Boards .	...
Other boards (for maintenance of Tonga Dák) .	...		
TOTAL .	77,064	TOTAL .	77,064

The figures require a word of explanation. It appears at first sight that the contribution to Provincial Revenues far exceeds what is received from that source, and that the Council, instead of being aided, is deprived of some of its legitimate income. This is not so; and the explanation is that this contribution is paid for the maintenance of roads which have now been "provincialised," *i.e.*, placed under the Public Works Department and maintained from Provincial Revenues, but for which the Council was previously responsible. This, then, is

merely an adjustment of accounts. The next point to notice is that the prescribed minimum expenditure on education would be:—

	Rs.
Education cess	18,665
Income from subscriptions, etc. . . .	300
Provincial contribution ear-marke for education in 1895	4,160
TOTAL .	23,125

The estimated expenditure exceeds this by Rs. 3,975. In the same way, the total minimum for all District Councils in the province is:—

	Rs.
Education cess	1,88,016
Income from subscriptions, etc. . . .	7,417
Provincial contribution ear-marked for education in 1895	94,760
TOTAL .	2,90,193

The estimated expenditure is Rs. 3,76,055.

Procedure regarding Budget Estimate.

55. This budget estimate* compiled by the Deputy Commissioner and the Council, is sent in the above form to the Commissioner, who sees that general principles are maintained and local wants neither neglected nor exaggerated. It then goes to the Comptroller, by whom it is consolidated with the other District Fund estimates, all of which are then submitted to the Chief Commissioner. The reason why the estimated expenditure on education so largely exceeds the minimum is that, in 1902, the Chief Commissioner laid down,† on the recommendation of the Director of Public Instruction, the sum of Rs. 3,76,055 as the proper annual expenditure on that object for the next period of three years, and promised additional contribution from Provincial Revenues to provide the means. Previously, expenditure had only slightly exceeded the minimum allowable.

Departmental advice on Budget.

56. This point shows that the Department is not without voice in the matter of finance. The Deputy Inspector

* It must be remembered that this is a skeleton budget, framed triennially with a view to enabling the Chief Commissioner to apportion the contributions. The annual budget, which is the actual working budget referred to in paragraph 57, is finally sanctioned by the Commissioner, save where the Deputy Commissioner is a member of the District Council.

† Chief Commissioner's No. 7527, dated the 21st August 1902.

forwards through the Inspector to the Council, before the annual budget is made up, a statement of the requirements of District Council schools for the ensuing year. The Council takes this statement into consideration, and sends it, along with the budget, to the Deputy Commissioner. This budget is finally sanctioned by the Commissioner, who considers the educational requirements along with the other wants of each district.

Details of Council's expenditure on education.

57. When the annual budget has been sanctioned by the Commissioner, the District Council knows its position for the next year, and can set to work to spend its money on the condition that the amount shown against the various (major) heads catalogued above may not be exceeded without the Commissioner's sanction. The total amount available for education is expended solely on Council schools (which are almost all Vernacular middle or primary boys' schools), their buildings, their furniture, and their staff.* For special purposes (such as the conversion of aided schools in 1902), special grants are given from Provincial Revenues. The details of expenditure are here shown—

Details of Budget for the Expenditure of Rs. 27,100 under head Education, in the Jubbulpore District for the year 1903-04.

	Rs.
Salaries of masters	18,035
Ditto servants	180
Contingencies	740
Furniture and apparatus	650
Repairs of school buildings	1,248
Construction of new buildings	4,902
Inspection (*i.e.*, pay of Education clerk attached to office of Deputy Inspector)	120
Cost of scheme for training teachers (*i.e.*, employment of substitutes for masters under training)	80
Middle school scholarships	770
Technical scholarships	180
Agricultural scholarships	100
Miscellaneous	15
Margin allowed	80
TOTAL	27,100

* Middle school scholarships are also paid from this source; but they are practically confined to candidates from District Council primary schools.

Naturally, the bulk of the Rs. 27,100 goes to the salaries of village schoolmasters, who are paid as follows:—The pay bills are made by the Council or by the Deputy Inspector (only if the Council maintains a special clerk for that purpose in his office). In the former (and more usual) case, data for alterations in salary have been forwarded by the Deputy Inspector to the Council by the end of the previous month. The Secretary of the Council signs the bills and makes out cheques (one for each *tahsil*) upon the Treasury, which are handed over to the District Superintendent of Police. The cheques are cashed and the money distributed over the district by the Police,* who return forms of receipt duly signed to be filed in the District Council's (rarely the Deputy Inspector's) office.

58. There is another item of educational income which is not shown in the above scheme. The curious fact has already been noted that fees no longer form an asset in the District Fund. The reason is that, whereas in all other Departmental and Board schools fees are regularly credited into the Treasury, in District Council Vernacular schools (middle and primary) they are administered solely by the school committee which spends them on supplementing a monitor's pay, petty repairs, upkeep of the garden, etc. The item of Rs. 300, then, shown against income from education, represents only subscriptions and proceeds from sales of school furniture, etc. The only case in which this heading would include fees is when District Councils manage Anglo-Vernacular middle schools. Such cases exist, but are very rare. Fees, then, do not appear as an item of income in the District Fund. They are separately administered. The rates payable in Vernacular Board schools (already given in paragraph 26) are as follows:— Fees.

	Middle classes.	Primary classes.
1st grade—Annual income estimated not to exceed Rs. 360	2 annas.	1 anna.
2nd do. Do. do. do. „ 2,000	4 „	2 annas.
3rd do. Do. do. to exceed „ 2,000	2 Rs.	8 „

* These duties of the Police were objected to in the evidence before the Police Commission. There is no doubt they lay an extra burden on the Police. At the moment of writing, a new scheme for payment through the post-office is being worked out.

Children of parents whose income is below Rs. 120 a year are charged only half an anna in rural schools; and free pupils may be admitted up to a maximum of 10 per cent. of the number enrolled, provided the parents' incomes do not exceed Rs. 75. If it is deemed desirable to exceed the limit of free pupils in any locality or village, the Director's sanction is required. Rates are assessed by the committee, but require careful checking by inspecting officers. They are payable in advance before the tenth day of each month. This rule, however, is not adhered to, and payments are often in heavy arrears, committees requiring to be backed up by inspecting officers in their collection, which is carefully entered in the attendance register. A separate account book is also kept, showing items of expenditure, and is signed by committee-members and touring officers. The amount of fees collected in 1902-03 in the District Council schools of the Jubbulpore District was Rs. 3,059—an item which does not appear in the District Fund nor in any other fund, but which is used solely for educational purposes and is shown in the returns of expenditure.

Exceptional cases.

59. Such are the principles of administration and finance in District Council schools. It must again be remembered that there are also a few rural aided schools under the management of societies, and supported partly by the societies' funds, partly by direct grants from Provincial Revenues. With these the case is quite different; but they form a negligible quantity. There are likewise a very few Departmental primary schools, and a large number of Municipal branch schools and aided schools in towns. The maintenance of these, too, is from sources other than the District Fund.

Sources, objects and proportionment of expenditure on education.

60. Finally, a statement is appended showing the various sources from which expenditure is made, the proportion of the District Fund to other items, and the objects on which expenditure from each source principally falls. The year taken is 1901-02, when the total expenditure on education was Rs. 11,10,972. The District Fund, as here shown, includes the cess and other local funds *plus* the *ordinary* Provincial contribution. The sum given as Provincial Revenues contains the entire

direct expenditure by Government, together with any *special* grants made to local bodies or societies.

Sources of Educational Expenditure in the Central Provinces during the year 1901-02.

	Rs.	
Provincial Revenues . . .	3,83,264	Covering total cost of Direction, almost total cost of Inspection, and
District Fund	2,63,179	
Municipal Fund	83,038	
Fees	1,41,382	
Other sources	1,37,416	
Revenue, cess and funds raised and expended in Native States.	70,693	
Total expenditure from all sources	11,10,972	

Section V.—GENESIS OF A SCHOOL AND ATTENDANCE.

Attitude of the people towards Vernacular education.

61. It has already been indicated in paragraph 38 that schools in the Central Provinces are not always popular institutions. The people are backward and almost wholly agricultural. Many of them, even when not aborigines, belong to castes which are not usually reckoned as having any need of, or claim to, education. These latter, so far from wishing to improve their position by acquiring a modicum of knowledge, generally resent having the privilege forced upon them; while the higher castes regard any attempt to instruct the lower, at worst as an infringement of their own rights, at best as a piece of harmless lunacy on the part of Government. These higher castes themselves often despise the advantages of learning. "In Oudh and the North-Western Provinces," writes Mr. C. A. R. Browning* "the intellectual condition of the people is very different (from what it is in the Central Provinces). There are in those provinces whole classes of the community in whose houses education is as much the fashion as in England,

* He was well acquainted with each of the provinces here contrasted.

and who would receive home education were Government schools withdrawn. As regards education, the great distinction between the people of the Central Provinces and of the more advanced parts of India is that there are no classes amongst whom education has descended from father to son. Even among the rich, ignorance is not considered discreditable." These words, written twenty years ago, are less applicable in the present time, nor must they be taken as implying (either then or now) that education is universally unpopular. Among the Banias, indeed, it is regarded as an essential.* A whole village will show itself anxious to patronise the school of a popular and trustworthy teacher, if only with a view to keeping their children quiet and out of mischief for a part of the day. Many individuals display praiseworthy interest, a few even self-denying generosity, in the cause of education. English instruction is now eagerly sought after as opening a road to employment. But vernacular education does not offer the same material attractions; and the vernacular school, especially in the less civilised tracts, is still often regarded with indifference, suspicion or hostility.

Schools started by the Government and by the people.

62. How comes it then that primary schools are started? and how is attendance in them maintained?

63. Schools are either implanted by the Government or initiated and fostered by the people till Government takes over their support. Government (now District Council) schools, set up long ago (sometimes in the face of unpopularity) in all the larger central villages, are now looked upon by the people as an established fact and are either tolerated or appreciated. The aid of the landlord, at first grudgingly extended to the Tahsildar and the Deputy Inspector, is now freely given; and attendance even if "regarded as a species of Government *begar*" is now secured with less difficulty.

64. On the other hand, there are schools initiated by the people. These are either indigenous or venture schools. Reference has already been made to the old indigenous type of

* Members of this caste are often ignorant of Hindi, but know Guzarati or Marwari.

school (paragraphs 33, 34 and 36). These, as found at the time when we first entered upon the country, generally taught Sanskrit or Arabic. As the study of these languages decayed, the vernaculars took their place and the grant rules encouraged the masters to assimilate their curricula more and more to that sanctioned by Government. "Venture" schools (*i.e.*, schools privately started by masters as a speculation) took advantage of the regulations; and their typical history may thus be traced: first, an unaided school is started, which, gradually approximating to prescribed methods, becomes (second) result-aided; third, if the school earns sufficient grant to justify its existence, it is raised to the status of a combined system school (paragraph 36); fourth and last, if it is seen to fill a distinct want it is adopted as a Board school. Result-aided and combined system schools are now a thing of the past; so that this process of evolution is no longer possible—a fact which must be regarded as a set-off against the admitted advantages of the abolition of an otherwise undesirable system. Under that system schools were encouraged to establish themselves; the various stages through which the institution progressed formed a sufficient test of its stability; unpopular or ill-managed schools died a natural death, being unable to support themselves; only the fittest survived. Moreover, the cost to Government during the long probationary period was comparatively small.

Alteration of conditions due to the abolition of the mass of aided schools.

65. It is almost too soon to say how the new regulations will operate. The venture or unaided school will spring full armed, and without intermediate stages, into the District Council school. If, with a view to testing the school's chance of permanence, the unaided period be prolonged, the strain upon the generosity of the malguzar or the self-denial of the master may prove too strong. If, on the other hand, the school be suddenly turned into a Board school, it may be found that the District Fund is saddled with the whole cost of an inefficient and unpopular institution, while the people will be more and more encouraged to look for support not to themselves but to the Government. Watchfulness on the part of inspecting officers

may, it is hoped, minimise these difficulties, which after all, are far outweighed by the advantages in the way of increased efficiency and discouragement of cram, which the abolition of the result system ought to secure.

66. Indeed, when we come to look at figures, it would at first seem as though that system, abolished only in 1902, had in its later stages failed to encourage the growth of new schools, and that no argument whatever could be urged for its retention. Since 1896, the number of primary schools in the provinces has increased by fourteen only, that of scholars by 7,601. Such a record appears to suggest that the limit of children who can be brought under instruction was reached long ago. This, however, is fallacious. To suppose that only eight per cent. of the children of a school-going age are really amenable to education is absurd. Since that year, too, famine has checked the natural development of schools. Moreover, progress, though slow, is assured. At the last census 327,486 persons in the provinces were returned as literate as against 256,911 in 1891 and 161,210 in 1881; while the percentage of males (in British districts) who could read and write had risen in the last decade from a little over four to nearly six.* It is a matter of fact that new schools do arise started by the people. It would be surprising if it were otherwise. There is but one school for every forty-one square miles of British territory or for every sixteen villages.† There is great diversity between the educational proclivities of different districts, Nagpur sending 13·3 per cent. of its available children to school, Sambalpur only 3·4. The gradual march of civilisation is bound to result in a certain levelling up, which will mean a vast increase of pupils in backward districts.

Agencies responsible for starting of new private schools.

67. What, then, are the circumstances under which new schools, when not directly implanted by Government, are started or are likely to be started? The impulse seldom originates with the lower orders; it is given by the leading spirits of the

* Census of India, 1901, Vol. XIII, pages 32 and 34.

† *Ibid* page 33.

village or by the malguzar. The former will band together quietly and unostentatiously, subscribe for a master (the pay given in such cases is almost always five rupees a month), and place their sons under his care. If the smaller tenantry of the village desire to send their children also, they are at liberty to do so. The master is generally uncertificated, but has passed the Primary Examination. The class meets in some open verandah. Punctuality and method are conspicuous by their absence; so, at times, is the master; but the boys, even when his back is turned, are wonderfully well behaved and industrious, their eyes glued on their books (generally the easiest of the prescribed Readers) and their mouths loudly intoning the lesson which thus becomes committed to memory. The motive underlying these indigenous and methodless schools is a real desire on the part of the parents to have their children instructed. The reason why they do not send them to the nearest Board school may be one of several. The Board school may be really inaccessible; or, though it may be only a mile or two away, some stream, swollen in the rains, may render attendance irregular; or a woody hill intervenes filling the anxious mothers with fears of tigers, panthers, and other noxious beasts. Sometimes pure indulgence of the children's laziness, or dislike to let them out of sight, renders the parents obdurate against sending them even one mile to school. I have found this especially the case in the district of Nimar, where very few boys attend Board schools not immediately situated in their own villages. This by no means implies that the boys go uneducated. For, while the percentage of children at school to those of a school-going age in that district is only 9·8, the proportion (11·2) of male literates to the male population is the highest in the province.* Sometimes disapproval of the prescribed curriculum is pleaded as a reason for opening a private school. But this is never backed by serious reasons and generally covers a real but less presentable objection,

* The reason for the discrepancy is two-fold, being partly the existence of home-education and partly the utter absence of girls' schools outside the towns of Khandwa and Burhanpur.

such as a constitutional dislike to subject their children to the bonds of punctuality and discipline, unpopularity (deserved or not) of the Board schoolmaster, or some local quarrel. It is curious how surreptitiously these little schools are often started; I have sometimes come across them purely by accident, the Deputy Inspector being unaware of their existence. It might be thought that a fear of the school becoming a Board institution is at the bottom of this clandestine procedure; but the promoters show no objection to having their school registered and informally visited by the Deputy Inspector, and are generally glad enough if the Council steps in and relieves them of the expense. An ill-defined dislike of interference in the first instance is a more probable explanation.

68. Next as to schools started by malguzārs. In these cases the teacher is often really a private tutor, who instructs the landlord's children and those of one or two others of his privileged friends. It must not be supposed that all malguzars keep such tutors; many are content to send their sons to the Board schools; some to their own detriment are callous towards education, and a few are hostile. When such a man suddenly awakes to his responsibilities and engages a teacher (always supposing there is no school situated in his village) the motive is generally to be sought in the old adage—

> When land is gone and money's spent,
> Then learning is most excellent.

The ruined malguzar determines to confer on his children the boon which, had he possessed it, might have saved his own fortune; or at least to fit them intellectually for a career which may save them from poverty. He is generally anxious to have his school turned into a Board school, whereby he reaps a double advantage—free education for his children and the reputation of a public-spirited supporter of schools. When his children have done their schooling, his zeal for education cools down perceptibly; but the school, once started and regarded (as all Board schools are) as a Government institution, stands a good chance of surviving. Other malguzars start schools with a view to gaining the good opinion of the powers that be, forward-

ing their ambitions and perhaps earning a minor title. The motive may be a mixed one; but the result none the less good. Nor must these remarks be regarded as cynical. There are many families of honest and well-meaning malguzars who, even if they are not themselves convinced that education is an unmixed blessing, are yet anxious to carry out the wishes of Government concerning instruction. But schools are generally established facts in the villages of these; and we are concerned here with the smaller villages not yet possessing Board schools.

69. Other agencies are sometimes responsible for the initiation of schools. The subordinate police or forest officials, when they find themselves in a village with no facilities for education, will perhaps realise that it would be cheaper and more satisfactory if their children, who look to follow in their foot-steps, could go to school on the spot, instead of being sent to friends or relatives in the nearest town. They interest the leading men of the village in the scheme. The usual teacher is engaged on five rupees. Next comes a request to the Inspector or the Deputy Inspector to visit the place, which is equivalent to an application for having the private school taken up by the District Council.

Conversion of private into Board school

70. So much for the process of starting new institutions. Those which are fairly efficient and give promise of stability are recommended by the Deputy Inspector to the District Council, which, if funds permit, sends on the application through the Deputy Commissioner to the Inspector. Should both of these officers agree to the desirability of the scheme, the school becomes a Board school, the Inspector reporting the fact to the Director. If no funds are to hand for an additional institution the master and properties of an already existing school which is ill-attended and unappreciated are sometimes moved bodily to the more promising locality. Side by side with this, Government continues to sanction from time to time special grants for the opening of new Board schools in backward districts. Suitable villages are proposed by the Deputy Inspector (those in which the people have declared a wish for education or have started a private school being preferred); and the proposals are

laid, as usual, before the Deputy Commissioner and the Inspector.

Causes of unpopularity of education.

71. It was said above that the desire for schools originates with the better classes; it is not shared by the smaller cultivators and the labourers. But since these two latter classes form the bulk of the population, it may be asked how attendance is secured. Though the words above quoted of Mr. C. A. R. Browning are not so applicable now as they were when he wrote them twenty years ago, and though large sections of the people have begun to evince a real interest in education, yet a certain antipathy still persists among those whose condition renders them less likely to reap and to appreciate the benefits of knowledge. The reasons underlying this antipathy were detailed in paragraph 38, in words written by the Chief Commissioner only five years ago. Among the principal were the apparent uselessness of the instruction imparted, loss of time, and the disabilities for an active after-life which are imposed by a sedentary youth. The new rural curriculum and the half-time system aim at meeting these objections. Other valid objections are the payment of fees and the purchase of books and slates; but these difficulties can generally be surmounted by exemption under the fee-rules and the supply of necessaries to poor children from the fee-receipts. Still, the hereditary bias towards a comfortable state of ignorance, and the power of custom, remain potent factors. Often, in the course of an inspection, a parent will verbally apply for having his son (aged, perhaps, seven) removed from the roll even of half-timers, in order that he may tend cattle all day. And one of the commonest forms of anonymous complaint against a master is that he receives bribes for striking names of unwilling attendants off the registers. So far as one can judge, the children rather like school than otherwise; resistance emanates from the parents.

Means of securing attendance.

72. There has been no legislation on the subject of education in the Central Provinces. There is no law nor any explicit order enforcing attendance at school. In some districts and among certain classes, none is required; but there is still a considerable percentage of pupils who would cease to attend the

moment that the legitimate means of securing attendance ceased to be used. "By legitimate means," wrote Mr. Thompson, "I understand the countenance and helpful attitude of the district officer, visits and advice of the Tahsildars, an active committee, a good Zillah (Deputy) Inspector and a good master. These influences, in my experience, have seldom or never failed to secure good attendance in a boys' school. The school in which attendance is secured may, indeed, for a time be unpopular; but when the parents see that their children are passed quickly through from class to class and have benefited by the instruction, as they generally do when attendance is regular, they come to regard it in quite a different light." This is as much as to say that, when a school is first opened, mild compulsion is required to break through the passive opposition of the people; when once that opposition has disappeared, voluntary attendance is the rule rather than the exception. Such attendance, however, does not spring solely from a desire for education. There is the ever-present feeling that schools are an institution of the Government, and must therefore be supported. District Officers and Inspectors, Tahsildars and Deputy Inspectors lose no opportunity of verbally impressing upon the people the advantages of instruction; the parents of absentees are called together and exhorted to send their children regularly to school. The village watchman, or kotwar, has, as part of his duty, to aid the master by conducting truants to school, and generally securing attendance. The influence of a good malguzar or a good committee cannot be overestimated. But greatest of all is that of a good master, whose social qualities recommend him to the parents and gain their confidence, and whose treatment of the children errs on the side neither of laxity nor of harshness.

Attendance of low castes.

73. A word is required regarding the attendance of children sprung from low castes. Early in the history of the province, the school at Chanda offered a test case, which drew from the Chief Commissioner the pronouncement that schools in any way supported by Government funds are open indifferently to all castes and all religions. The difficulties of dealing with

cases where admission is claimed for low caste children were discussed by the Education Commission of 1883, who recommended that no child should be excluded from a departmental school on the score of caste, but at the same time recognised that the admission of a single pupil may cause the closure of a whole school. In the Central Provinces there is not much practical difficulty. Local prejudices vary greatly on the point; sometimes nothing will induce the low castes to aspire to education; when they do so aspire, either they are wholly tolerated, or some arrangement is made whereby they stand a little apart from their class-fellows, who thus avoid contamination. Such an arrangement is unsatisfactory but unavoidable. It is needless to say that religious instruction is not given in Board schools.

Statistics. 74. The above remarks upon the attitude of the people towards education are not universally applicable. There is a great variety of feeling among different districts, villages and classes. Moreover, this part of the subject, dealing as it does with motive causes, can be treated only from the point of view of impressions. When we turn from these mixed causes to their results, we are on firmer ground. In 1902 there were in the province 2,123 primary boys' schools, with 123,331 scholars, which gives 58 scholars per school. The average daily attendance was 69 per cent. of the average number enrolled. The figures, however, are for all primary schools, including those within municipal limits, whose numbers and attendance are usually larger than in country schools. Separate figures are not available for the latter; and some reduction must be made in applying the above quoted figures to them.

Summary. 75. Before this section closes, it is necessary to refer once more to that portion of section III which dealt with the state of education in these regions before the formation of the Department, and to the words of Mr. Browning above quoted. When the Department was created in these provinces, it did not, as was the case elsewhere, find a net-work of indigenous schools, firmly established in the villages and ready to be converted into Board or aided institutions. The reign of terror

which Pindari and Maratha hordes created at the beginning of the last century had swept away the surviving relics of older civilisations. What few schools remained were of a crude type; the pupils learned Sanskrit *sloks* without comprehending the meaning, imbibed such falsehoods as that the sun revolves round the earth, and were subjected to barbarous punishments. The new Department found what amounted to a *tabula rasa*. Nor was this all. The people, largely of inferior caste, cowed by long oppression, and isolated among broken tracts of country, *mutuo metu separati et montibus*, cared nothing for education and viewed its introduction in the light of some new disease. In judging of the establishment of schools and attendance, these facts cannot be too carefully recollected. Under these circumstances the figures given above can only be regarded as gratifying. They represent the work of forty years, at the beginning of which (in some districts and to some extent, even to-day) the rural school, established out of nothing and in the teeth of opposition, itself had to create the want that it was destined to fulfil.

Section VI.—INTERIOR ORGANISATION OF A SCHOOL.

The building

70. The school building has already (paragraph 9) been briefly described. It is sometimes the gift of the malguzar or is erected wholly or partially by subscription among the villagers. More frequently (especially in recent times) it is paid for by the District Council. Its construction is then entrusted to the Local Board, who hand over the work either to a contractor or to the school committee. Generally speaking, the construction is much better done by the latter agency. It is natural that the committee-members should take a pride in their own school-house; hence not only is the work honestly and economically performed, but the villagers will exceed the original cost by something out of their own pockets, or effect a saving by supplying timber, etc., gratis. The material used is either brick or stone, whichever is commoner. The roof is invariably tiled. The dimensions of a primary school building should be such as to provide at least six square feet and sixty

cubic feet of space for each pupil on the roll.* In practice, this minimum is generally much exceeded. Thus a typical building for a small village school of 50 pupils will have a single inner room measuring 20 feet by 12 feet. The walls are some 10 feet in height supporting a slope roof which gives a cubical content of about 3,360 cubic feet. This would allow for 40 boys sitting inside if the minimum were taken; but, as a matter of fact, 20 or 30 boys would be the largest number ever assembled in the room at the same time, the rest working in the verandah (32 feet by 6 feet) in front. A plan of such a school, roughly drawn to scale, is given in Appendix A (1). Generally speaking, in small rural schools, the rule of one teacher one room is observed. An institution of this size would have one master taking classes inside and one monitor looking after the smaller boys on the verandah. The plan does not aim at being the best possible (*e.g.*, the verandahs are too narrow); it is merely given as fairly typical. The two small rooms at either end are for storing maps and appliances under lock and key. The cost of constructing a small village school is about Rs. 350. The one here shown would be from Rs. 50 to Rs. 100 more.

The furniture.

77. The interior of the room has been already described in paragraph 16. A list of the necessary articles of furniture is given in Appendix A (2).

The pupil's outfit.

78. In this connexion, it may be interesting to state the outfit and its cost, required by a pupil in each class of a primary school. This information is given in Appendix A (3).

Registers.

79. The only registers prescribed for a primary school are :—

A Visitors' book.
A Register of admissions and withdrawals.
A Monthly register of attendance and fees.
A Punishment register.

But other registers are almost always maintained, *viz.* :—

A Promotion book, showing the progress made by a boy

* Education Manual, Article 79 (*a*).

through the school and signed by the inspecting officer making promotions.

A Progress book, showing the progress made week by week in each subject by each class.

A *Register of fee-expenditure.*

A Committee-book in which the minutes of the committee-meetings are recorded.

A List of furniture and appliances.

In addition to all these, three cards are hung upon the walls, so as to catch the eye of inspecting officers. These are—A statement of the population of the central village and each of the feeder villages; the *kami-beshi*, or comparative statement, being a brief monthly record of enrolment, attendance and fee collections; a list of the committee-members, with attendance or absence at each meeting indicated.

Admission and promotion.

80. On entering a rural school a boy is almost always of tender years and quite ignorant. He is placed in the infant class, and is then gradually promoted through the four higher classes. Admissions from other schools are naturally rare, and the inter-school rules of the Education Manual are framed almost solely for urban institutions. When a boy arrives at a school-going age the master goes to his father and advises him to admit him to the school. When the child has read for a year or two in the infant class, the master promotes him to the first or lower section of class I and again from that into the second section. Above this, promotions from class to class are generally made by the Deputy Inspector. But there is no rule on the subject; and it is certainly desirable that masters should, so far as possible, promote in their own schools. Deputy Inspectors permit this privilege to masters who can be trusted not to abuse it. Improper promotions can easily be detected at the time of inspection; and the master may then be punished by being deprived of this privilege. Promotions are made between January and March (both inclusive), generally at the time of the Primary Examination.

The Time-table.

81. This sub-division of the school into nominally five, but really six, classes is an important point in connexion with

internal organisation. In considering it we must keep in mind the syllabus, which includes:—

Reading	...	(*a*) Text-books. (*b*) Manuscripts.
Writing	...	(*a*) Dictation. (*b*) Copies and lesson-copying. (*c*) Letter writing.
Arithmetic	...	(*a*) Slate arithmetic. (*b*) Mental arithmetic. (*c*) Commercial arithmetic.

Geography and Agriculture.

Kindergarten Drawing.

Drill and *Deshi Kasrat*.

Drawing *or* Grammar *or* History	... ...	Optional for full-timers only.

We must likewise recollect that the half-timers, who form the majority of the pupils, attend school for only three hours daily. When these things are considered it becomes obvious that the framing of a time-table is fraught with difficulty. Sometimes each head master makes his own time-table. Sometimes the Deputy Inspector prescribes a common one for all schools of a similar type within his range. The Manual lays down that in all cases the Inspector (formerly the Director) shall sanction each time-table. This order can hardly be fully carried out; and it would appear desirable that the Inspector or even the Director should prescribe model time-tables for the Circle or the Province. Except when there are slight variations in the curriculum, local circumstances cannot affect the suitability of a time-table framed for schools teaching the same subjects and employing the same staff. The question, however, next arises whether any satisfactory time-table is possible.

82. The large number of classes entails the following difficulties:—

(*a*) It is almost impossible to give sufficient time to oral instruction in each class taken separately.

(*b*) The time-table becomes unduly complicated.

(*c*) The monitor can no longer retain his character as an assistant to the master; he becomes an independent teacher and is entrusted with separate classes, though his age and qualifications often unfit him for this task.

(*d*) The time of the master is too much engaged to allow of his supervising the monitor's work.

(*e*) There is a waste of energy, because classes III and IV, though often very small, are regarded as distinct units and taught separately.

(*f*) The classes which are not being orally instructed have to be set down to written work for considerable periods together; and unless the master is (as but few are) sufficiently active to teach and to supervise at the same time, these classes will fall into indiscipline and faulty methods of work.

83. Hence, though the proportion of teachers to pupils is, excluding monitors, roughly the same as in English primary schools, and larger than in similar schools in Prussia, yet their work cannot be so effective. Owing to the large number of classes, the primary teacher in the Central Provinces is supposed to be able to instruct only 40 children if he is unaided by a monitor. In England a single teacher manages 57, and in Prussia 66, pupils. The addition of a monitor is supposed to justify the enrolment of a further 20 children. But a glance at the time-tables in use shows that, even so, the staff is much handicapped. Appendix A (11) gives the time-table, as it was *submitted to me recently, proposed by a Deputy Inspector for all* schools of his range to suit the new curriculum. It is a favourable specimen of its kind, yet its defects are apparent. Save on Saturdays, the master does no teaching in classes I and II, and his own time is obviously too much taken up to permit of his exercising efficient supervision over the monitor. The time of both, especially of the latter, is too much crowded with work. A glance at Appendix A (12), which shows the proportionment of hours among subjects for one week according to this time-table, will disclose the fact that no principle is followed, the distribution of time merely following the exigencies of the

case. Oral are sacrificed to written subjects, since the latter require less attention from the masters. The boys of class II devote only $3\frac{1}{2}$ hours per week to reading—a most important subject in that standard.

84. I have collected time-tables from other districts; but their defects are generally even more apparent than those in the specimen shown above. In fact, the present class system, while it stimulates the pupil to effort, secures a fair uniformity of comprehension in each unit and facilitates inspection, yet carries with it two grave disqualifications:—firstly, it produces a loss of energy, since each class (in a rural school), though theoretically receiving separate instruction, may be anything from one-half to one-tenth the size of that which a single master can manage; secondly, no satisfactory time-table can be framed.

85. A solution of the difficulty is possible, in either of three ways:—

(1) Since classes III and IV are generally very small in these schools and since their text-books, though different, contain lessons on the same subjects, they might be taken together as a single class, lessons being chosen now from the third, now from the fourth Reader. I have drawn up a time-table [Appendix A (13)] on these lines and have tentatively introduced it into a few schools in various districts of my Circle. It provides only two hours for the infants (who, indeed, only assemble slowly during the first hour). It permits the master time to take some of the work of every class during the week and to give up practically three hours to the lower classes on Saturday. It is comparatively simple, and it gives [Appendix A (14)] a reasonable proportionment of hours to work.

(2) The present classes might (together with their text-books) be telescoped up. Three classes with two text-books would probably be found sufficient and would certainly be more in accordance with European models.

(3) The present division of classes might be retained and an approximation made to the system of the *Halbtagsschulen* of Germany. This could be done only in a very modified man-

ner; otherwise the half-time principle would be transgressed. But supposing classes III and IV to come to school from 7 to 10 A.M., classes I and II (consisting of small boys whose help in the fields is not so essential) might come from 8 to 11 A.M. The work of the master would thus be spread over four hours; as it is, he has to rush through his day's labours in three hours (save where there are full-timers), and has then no more to do save to prepare his lessons for the morrow.

Section VII.—THE CURRICULUM, NORMAL METHODS AND TEXT-BOOKS.

The curriculum.

66. The subjects of syllabus and curriculum have already been treated at considerable length in paragraphs 14 to 24. It remains to give [Appendix A (4) and (5)] the curriculum of a primary school in tabular form as it is embodied in the latest edition of the Manual. The curriculum of physical instruction is shewn in Appendix A (16). The aim of the curriculum may be briefly recapitulated. It is to endow the pupil with elementary knowledge ("the three R's"); to form his power of observation; to prepare him for his station in life by certain purely utilitarian branches of instruction, and finally to make his body strong and vigorous. One apparent omission requires explanation. Object-lessons are not included as a separate part of the rural curriculum. The reason is three-fold. First, the curriculum (in the case of half-timers) is already heavy for a daily attendance of three hours; second, the ordinary village schoolmaster, even after careful training, appears incapable of giving set object-lessons without losing sight of their essential characteristics, and lapsing into lecture or memorial instruction; third, these lessons are already provided for by the subjects of the readers (those especially on common products, agriculture and sanitation), by the prescribed methods of teaching geography, and by the instruction concerning soils, etc., given in the fields incidental to a study of Patwaris' papers; and the master appears more at home in, and more capable of dealing with, object-lessons which are thus disguised as

a part of the reading course, than when they are openly designated as such and presented as a separate branch of study.

Want of variety in the curriculum.

87. It will be noticed that practically no variation is allowed in the course for half-timers. This may be regrettable, but can hardly be avoided. For the "three R's," geography and agriculture and manuscript subjects are rightly regarded as essential for every pupil. The shortness of the school hours prevents optional subjects being taken up (save in the case of full-timers) in the choice of which the boy's inclinations might be consulted. A reference to Appendices A (4) and (15) will show that the Inspector may, even in some rural schools, have to sanction the teaching of grammar in place of Patwaris' papers. But the number of such cases will always be insignificant; and the rule has merely been made for the sake of certain villages in rural tracts which are not agricultural at all and may even have no land attached to them; they are really bazaars established on thoroughfares by communities of banias for the convenience of travellers and for purposes of trade. In the case of full-timers and of pupils in urban schools, some choice is permitted.

Normal methods.

88. The various parts of the curriculum must now be studied in connexion with the normal methods prescribed and the text-books in use. As regards the former, it must be prefaced that, while the right modes of instruction are inculcated in the various training schools, no absolutely hard and fast rule regarding details is laid upon masters; each, within certain broad limits, may develop his own individual genius. As to text-books, their production is entrusted to a well-known publishing firm in Lucknow, with which the Government has entered into an agreement.

(1) In the infant class.

89. It is not needful to say much about the special instruction of the infant class, because that class is less instructed than employed. Care is taken to hang the model letters and forms, pictures of utensils and examples of colours, upon the wall in front of which the infants sit, and at a suitable height, so that their eyes, when not otherwise employed, are always fixed thereon. Sense-perception is the key-note of the methods

used, which approximate to those both of Fröbel and of Pestalozzi. Three motives are called into play:—That of curiosity, by setting toys and implements before the children and telling them stories; that of activity, by keeping them constantly employed in making letters with seeds, handling kindergarten gifts and playing games; and that of property, by letting each possess his own coloured bag of cowries, seeds, etc. Class I carries on the subjects here begun; but less by way of amusement and more by way of instruction.

90. The general methods impressed upon teachers in each branch of study are as follows:— (2) Reading: (a) Of text books.

Reading.—(a) Of text-books.—This is begun in the infant class by means of seeds, cowries, and sand spread on boards. At this early stage no separation is made between the teaching of reading and that of writing; both are carried on simultaneously; the infant recognises the letter hanging on the wall and straightway reproduces it. Portions of letters and simple letters are first taught, the shape of each, its component parts and its difference from other letters being emphasised. Eye, hand, mouth and ear are called into play for recognition, construction and pronunciation. Thus the whole alphabet is learnt by means of seeds and sand-boards. In class I, first section, sheets of large printed letters are placed before the child, who now learns them through this medium, and copies them on to his slate. The combinations of consonants with vowels and other consonants are likewise taught from sheets, and a few very simple words are read and written. It may be noted that, the names of letters in the Deva-Nagri alphabet being practically the sounds of the letters and no more, anything in the way of the "*Normal-Wörter*" or "*Schreib Lese*" system is unnecessary. There are, however, some local ways of naming letters which seem constructed only to puzzle; fortunately one rarely hears them; and masters sometimes, of their own accord, use a very elementary *Normal-Wörter* system (which is obviously indigenous), especially with the different kinds of "t's" and "d's" and with aspirated and unaspirated letters. Thus, in teach-

ing the letter "Tha" (hard aspirated "t"), some always call it "Thakur ka Tha", *i.e.*, the 't' which begins the word "Thakur."

91. By the time the child reaches the second section of class I, he has discarded reading-sheets for the first Reader, which begins with the alphabet, and goes on through easy words and combined letters to little stories. It lacks the small pictures of objects over simple words which are a common feature of such books. This has been done with a view to cheapening the volume. The second Reader (begun in class II) has a few pictures, but not good ones. The method of reading narrative prescribed in these two classes is the same. It need not be intelligent; clearness, correctness of pronunciation and proper speed are all that are sought for. Each word is uttered in "staccato," a longer pause being made only at the end of the sentence. In class II, however, intelligent reading is often attempted—with more or less success. The manner of conducting a lesson is for the master first to read a portion of a sentence, which the whole class repeats in unison. Then, when the lesson is finished, it is read again by the boys alone, each boy taking a sentence. At this point correction of wrong pronunciation and taking of places are permitted. Next comes explanation of the piece read. First, new words are written on the board, fully explained and illustrated, if necessary, with a short object-lesson. Next, questions are asked about the piece and the boys invited to repeat its outline in their own patois. The second Reader is a suitable and interesting little book.

92. In class III, intelligent reading is aimed at, and pauses and punctuation must be attended to. Many masters continue reading in unison, but make the mistake of reading and hearing clauses (not whole sentences) at a time—a method which reduces all minor punctuations to the same value. Provided that whole sentences are read, and that the explanation is carefully taken before the actual reading lesson, the system may be beneficial. But there are two objections to it in classes III and IV of rural schools; the first being

that these classes are sufficiently small to allow of individual attention; the second that, in small school buildings, unison-reading is apt to be noisy and disturbing. On the whole, it is discouraged. Otherwise, the mode of taking a lesson is the same as in class II. The third Reader is perhaps a little dry, save towards the end, for boys of the age for which it is intended. In it commence the series of lessons upon agriculture sanitation and history. In this class manuscript reading is begun. It will be considered separately. In class IV emphasis and expression are expected from the boys.

93. The fourth Reader consists of 184 pages. A list of its contents may be instructive:— Description of a text-book.

Contents of the Fourth Vernacular Reader.

1. Praise of God (poetry).
2. Queen Victoria (biographical sketch).
3. The Lion and the Hare (fable).
4. Cattle (object-lesson).
5. The Coming of the Europeans to India (History Series, Part 9, being continued from the third Reader).
6. The Pollution of Air (Sanitation Series, Part 7).
7. The Flower (Agriculture Series, Part 7; also an object-lesson).
8. Collection of Moral Aphorisms (didactic poetry).
9. The Chinese Empire.
10. The Battle between Alexander the Great and Porus (translated from Plutarch's Lives).
11. The Old Man and his Bullock (story).
12. Settlements of the Europeans (History Series, Part 10).
13. The Purification of Air (Sanitation Series, Part 8).
14. Good Seed (Agriculture Series, Part 8).
15. Collection of Moral Aphorisms (didactic poetry).
16. Wind, Vapour and Rain (Physiography, Part 1 Wind).
17. The Punishment of Children.
18. Coin as a medium of Exchange Political Economy).
19. Calcutta, Bombay and Madras (History Series, Part 11).
20. Sleep (Sanitation Series, Part 9).
21. The Food of Plants (Agriculture Series, Part 9).
22. Practical Advice (didactic poetry).
23. Queen Durgavati (biographical sketch).
24. The Advantages of British Rule in India.
25. Sugarcane (object-lesson).
26. Madras, the Carnatic and Provinces of the Deccan (History Series, Part 12).

Contents of the Fourth Vernacular Reader.—contd.

Contents of the Fourth Vernacular Reader—concld.

66. British Administration in India (History Series, Part 18).
67. Introduction to the "Mitralabh" (pure Hindi).
68. "Mitralabh," Part 1.
69. "Mitralabh," Part 2.
70. "Mitralabh," Part 3.

The cost of this volume is five and a half annas. Save in the poetical pieces and in lessons 67 to 70 (which are purposely written in a purer form of Hindi) the language is simple. It is often objected, nevertheless, that it is not the language of the people. This is true. But it would be impossible to write a single text-book precisely suited to any one of the vast number of linguistic sub-divisions of the population which has to be catered for. This difficulty has already been indicated. Three different kinds of Hindi, sufficiently distinctive to be termed languages, are found in the Provinces. These are Western Hindi, Eastern Hindi, and Rajasthani. Of the first, the Bundeli dialect is largely used, sometimes corrupted with Marathi. The second contributes two dialects, Bagheli and Chhattisgarhi; and two dialects of the third, namely, Malwi and Marwari, are also spoken. But these dialects are again sub-divided into a host of caste or tribal sub-dialects.* This takes no account of the separate languages of Marathi, Uriya and Urdu, in which parallel text-books are published. But, as regards the Hindi version, a further difficulty is raised by the fact that the Hindi-speaking element in the larger towns uses a large admixture of words of Persian origin, and does find real difficulty in the more Prakritic vocabulary suitable for the rural districts. On the whole the standard Hindi adopted in the Readers is a good workable language for all districts and all classes. That it should represent the ordinary colloquial is far less to be expected than that a labourer's son of Yorkshire or Somerset should introduce the correct expressions which he reads in the Board school into his family circle. But it is, for all intents and purposes, what any man of the meanest attainments, from

* Census of India, 1901, Vol. XIII, Chapter V.

one end of the Hindi-speaking districts to the other, would use in writing an ordinary letter. And it contains only a very small percentage of words which are quite new to the majority of boys.

94. As will be gathered from the list of contents, this Reader (with its predecessors) is supposed to be almost the sole text-book used. The language-lesson is, so far as possible, made the medium of general instruction; and the history, sanitation and agriculture series are included, in order that all boys, even when they make no special study of those subjects, may be obliged to gain some idea of them. No other book is required save a simple geography, an arithmetic and a mental arithmetic book. It is a question whether even these might not, in a rural school, be beneficially discarded.

Masters' note-books.

95. In dealing with the Readers, every master is required to make his own note-book. This serves a double purpose. It ensures the master having once carefully prepared and analysed each lesson, while there is a presumption that, having once done this and reduced the result to concise and easily digested notes, he will continue to do so each time that lesson crops up. Secondly, it serves as a reference book for the master himself, since he puts down useful pieces of information about the history lessons, etc., regarding which, in the Bœotian atmosphere of an Indian village, his mind might otherwise grow rusty. The danger is that the master often thinks it sufficient if his notes consist of long sets of model questions and answers; this is harmful, since the master never strikes out into new questions and the boys get the answers by heart. Only careful inspection can eradicate this fault.

Example of a lesson.

96. Finally, let us take an example of a reading lesson. Space forbids to quote more than a single paragraph. Let it be one from lesson 28 of Book IV (The Food of Plants):—

"*Third rule.*—There must always be sufficient water in the ground to allow the food to dissolve.

"You assuredly know that water is a necessity for a crop, because it dissolves the food and enters with it through the roots into the plants. This is the reason why a fresh plant

weighs heavier than a dried up plant. Nine-tenths of its weight comes from the water it contains. From this it is evident that there must be plenty of water in the ground in order to raise a crop."

The master first elicits, by individual or unison answers, how much the boys remember of the last lesson of this series. He reminds them that plants draw their sustenance from the air by their leaves and from the ground by their roots. He assures himself that the boys remember the experiments then shown them (namely, the withering of a plant when kept closely confined, or when given free air but no soil). He also connects the present rule with one just given in this lesson, namely, that the ingredients of the soil must be fine enough to dissolve in water.

He next finds out by individual questions on the general meaning, whether the boys have studied their lesson overnight. He likewise asks the meanings of hard words contained in it.

If they are puzzled by any words (all in this passage are quite easy, though perhaps that for " evident " might require explanation) he writes the words on the board, and gives their derivations, etc.

He next puts the boys on to read the lesson, allowing correction and taking of places, but also reading a sentence here and there himself to show how it should be done. Sing-song intonation, neglect of stops and hurrying are the faults to which his attention will be most directed.

The boys now close their books; and the master asks questions individually:—What is the third rule about the food of plants? Why must there be plenty of water in the ground? Why cannot the plant eat its food save when dissolved? Where are its mouths situated? How large are they? Can you see them? How do you know that plants drink up much water with their food? And so on.

These questions are then illustrated with experiments. A plant is displayed, embedded in dry earth, which the boys have seen kept unwatered for a day or two. Another is shown

in a bottle containing soil in solution. A root is passed round and examined under the microscope.*

The master then gathers up the main threads of the lesson, and asks a few final questions to be answered in unison.

(b) Of poetry.

97. (*b*) *Of poetry.*—The difficulty of this subject has already been pointed out (paragraph 19). Each class is supposed to learn by heart a certain number of lines, amounting in class IV to 80. Above class I, the meaning has also to be taught —no easy task, because the poetical differs enormously from the prose language, and because the boys are utterly ignorant of grammar. Hence masters are much averse to starting this part of their work on a proper basis; once, however, a teacher sees that it will be insisted on and is shown the method, the results are surprisingly good. The reason of this is that both the poetry itself and the general method of interpretation are purely native products. The boys (together with their parents) enjoy the former; the master easily grasps the latter.

Example of a lesson.

98. No illustration can be given save in the original Hindi. Let us take the first couplet of lesson I of Book IV:—

Jagadíshwar ko dhany jin upjáyo sansár:
Kshiti, jal, nabh, páwak, pawan kari inko wistár.

(Praise to the God who created the world:
Having spread out earth, water, sky, fire, and air.)

One of the class first reads over this couplet, the master correcting his mistakes (which will probably be numerous) and reading it over again himself clearly.

He then asks them to make guesses at the meanings of the words. A bright boy may guess a few. But probably the master will have to explain everything. There are in this couplet only three words (*ko, jal,* and *inko*) which all boys would know, and four (*Jagadíshwar, sansár, nabh* and *pawan*) which some might perhaps know. The master therefore begins, Jagadíshwar, jagat ká íshwar; dhany, shábásh; jin, jinhon ne; upjáyo, paidá kiyá; sansár, duniá, etc. The boys repeat this in

* A list of apparatus and experiments will be found in Appendix C (4), which should be referred to for further information on the method of teaching the important subject of agriculture by means of object-lessons.

unison after him. The master points out derivations, as in Jagadíshwar, related words, etc. This part of the lesson is technically known as *Shabdarth*.

The next part is prose-order, or *anvay*. The boys now understand the words, and the master asks if they can guess at the general meaning so far as to put them into their natural order. If they cannot do this, he explains:—" Jagadíshwar ko dhany (hai) jin sansár upjáyo, kshiti, jal, nabh, páwak, pawan, inko wistár kari." (Strictly speaking the words "sansár upjáyo" should come last; but this refinement would probably only puzzle the boys.) This is repeated by the class.

After this comes *mani*, or general meaning. It is really a combination of the two foregoing parts of the lesson, the word-meanings being put in prose-order, thus:—Ishwar ko shábásh hai, jinhon ne duniá ko paidá kiyá, prithwí, páni, ákásh, hawá, inko phailáv karke. After a little practice the boys can do this themselves.

Finally comes *ullekh* or explanation of allusions. But this couplet contains no such difficulties; they occur, however, in passages which refer to the Ramayan, the Mahabharat and mythological subjects.

Along with the meaning the poetry is learnt by heart, and sung to one or other of the popular *rágs*. This is thoroughly enjoyed by the boys; and when the Deputy Inspector or the master has a taste for music, the effect, even to European ears, is distinctly pleasing.

99. (*c*) *Of manuscripts.*—This is one of the utilitarian branches of instruction and commences in class III. Each master is required to make a collection of written letters, post-cards, etc., which reach him or other villagers, as well as specimens of bonds and petitions. These must be sufficiently numerous to secure a wide variety of handwritings. To spell these out is a matter of practice rather than of teaching. All the master can do is to point out such forms of letters as are peculiar to written script and to show the formal headings for different kinds of documents, the proper salutation in letters, etc. (c) Of manuscripts.

(d) Of Patwaris' papers.

100. (*d*) *Of Patwaris' papers.*—The reading of these really forms a part of the last branch of study; their comprehension is a different subject. For the sake of uniformity with the curriculum tabulated above, it is here described as part of the reading course.

101. It has been already explained (paragraph 20) what are the *khasra* and *jamabandi*. Specimens of these are given in Appendix A (6) and (7). They are registers made anew each year by the Patwari or village accountant. In a village of even ordinary size they consist of many pages. The khasra is a list in serial order of fields with their particulars. Column 1 gives the serial number of the field, column 2 its acreage to two places of decimals, column 3 the kind of soils. Thus, mund awwal is a black soil containing concrete nodules (kankar) of which lime is prepared; it is friable and suited to the growth of wheat. The quality of soil, of course, forms an important factor in estimating the value of the land and assessing the amount of revenue due thereon; so also do the lie of the surface, the position of the field and its protection by embankments, etc. The letters G, D and M indicate respectively the suitability of the soil for growing particular crops, thus, G= *Gohari* or land suited for wheat, D=*Dhanahi*, or land suited for rice, and M=*Mutafarikat*, or land suited for other crops. If the serial number in the map indicates a plot not included in a holding, such as a road, a tank, a hill, etc., this is noted in column 4. The name of the proprietor is given in column 5, that of the tenant in column 6. This column likewise shows in what right the land is held. Thus, if the word "sir" is given, we know that this is the malguzar's own hereditary holding, which he either cultivates himself, or leases out to other cultivators, who can acquire no rights whatever over it. "Khudkast" indicates that the malguzar himself cultivates land which is not his hereditary home-farm but has been acquired in an ordinary way, over which any tenant to whom he lets it can acquire ordinary tenant's rights. The malik-makbuza is a plot-proprietor possessing almost the rights of a malguzar over his own holding. Next are the rights of the

absolute-occupancy (katai maurusi) tenants, whose rent may not be raised within the term of settlement, and who cannot be ejected for non-payment of rent, but whose land may, on the obtaining of a decree, be sold by auction. Below these are the occupancy (maurusi) and ordinary (mamuli) rights. All these are described in lesson 54 of the fourth Reader. Column 7 contains the names of sub-tenants and tenants of *sir*; the headings of the other columns explain themselves.

102. The jamabandi is a list of cultivators' holdings and details of rents. It stands to the khasra as, in accounts, the ledger stands to the cash-book. The cultivators' names are catalogued serially according to their rights. First come the malguzars, with their *sir* land and khudkast; then the malik-makbuzas, whether holding plots free of revenue or subject to its payment; absolute occupancy, occupancy and ordinary holdings, and those free of rent, generally in return for service, such as that of the kotwars. A few examples of each are given in the appended specimens; and it will be noticed that the tenants, proprietors and fields entered in the jamabandi are the same as those in the khasra, but differently arranged. The only point of difficulty to the boys is in columns 6, 7 and 8, where the total is that of rent for the year made up of cash and kind (if any part of the payment is made in kind). From a study of these papers the cultivator may know the land held by him, his rights, the crops raised on and the rent due for his fields.

103. To impress these points on the boys each school is supplied with a full copy of these two registers for the village in which it is situated, as also with a copy on tracing cloth of the patwari's map. This last gives all the numbers of the khasra marked on the fields; it is hung upon the wall, and, besides its prime use as a part of the village-records forms a part of the geography course. Each boy in class IV copies out, in the course of a year, 20 pages of each register in the proper form. He must be able to read the map, and distinguish fields, roads, etc. He is likewise required to learn all details concerning his father's fields and their position on the map. To get by heart the headings of each column is a simple matter to

him; to understand them and the technicalities entered below is not so easy. The method is made as practical as possible. Twice or thrice a year the patwari takes the boys into the fields with the registers and the map; shows them that the latter corresponds with the real position of the fields, and the records of the khasra with the possession of the fields and the crops sown; he explains the different kinds of soil and gives the boys a rough idea of measurement. Besides this, specimens of soils are kept in pots in the school—sometimes in beds in the garden with their proper crops growing on them. The master questions the boys on the meaning of the entries they make in their registers. What fraction of an acre is roughly indicated by such and such a decimal figure? What is this or that soil fit for? What are the precise rights of tenants of various standings? Why should a tenant prefer to cultivate khudkast rather than *sir*? and so on. It is a difficult subject for boys of that age; but though it has been only recently introduced, some show an aptitude for it, and as its utility becomes apparent, its study is likely to be more effective.

(3) Writing.

104. *Writing.*—Not much need be said on writing; it has already been partially treated under "Reading," because in the earlier (and more important) stages it is taught along with that subject. The point on which great stress is laid in good schools is the proper formation of each separate part of the letter; in Hindi (more even than in other scripts) attention to this ensures good handwriting; and the formation of letters with seeds in the infant class affords a favourable opportunity for pursuing the method. In all the higher classes, slates are used for copying and dictation; paper is an expensive luxury and can be afforded only for manuscript work (writing of Patwaris' papers and mahajani accounts) and for the composition of letters in class IV. But good paper copybooks, with printed headings, are insisted on in the three highest classes. Occasionally, in a very poor village, one or two boys cannot supply themselves with copies; but these can usually be got from fees. As to spelling it would be hard to conceive a language in which this subject presents less difficulty than in Hindi. The boys

of class I spend a considerable time in copying out sentences from their Readers. After a single year of this practice, they are able to write with great correctness.

105. When the boy has attained class IV his writing lessons are as follows:—

(*a*) Copying small hand in a book from printed headings.

(*b*) Dictation (on slates) from the fourth Reader and from unseen passages.

(*c*) The writing (on rough native paper with a reed pen) incidental to the study of manuscript subjects.

(*d*) The writing (generally in a note-book of native paper) of imaginary letters, at first dictated by the master and, later on, made up by the boys.

106. On the whole, writing and spelling seem to form a subject congenial to the Hindu. He both learns and teaches it with ease, probably because either can be done mechanically. An inspection of the school registers generally shows the master to be an accomplished penman; and very little trouble suffices to make the boys good writers. Hindi spelling is somewhat lax and permits of local variation; but, generally speaking, the classes spell creditably and in conformity with the language adopted in the Readers. To give an idea of the standard attained in class IV, I may mention that I frequently set boys to write letters before me on some incident in their lives (*e.g.*, the celebrations that took place in their village at the time of the Coronation Durbar). The result, though less full and vivid in matter, is superior in style, orthography and handwriting, to what would be expected of English boys of the same age and of a far higher station in life.

(4) Arithmetic. Mixture of Native and European systems.

107. *Arithmetic.*—The question of the curriculum for arithmetic is complicated by the fact that a native system, good of its kind, already exists which is hardly compatible with European methods. This native system depends upon two points—the learning of tables (including fractional tables) up to an incredible standard; and the use of rules of thumb called "gurus" (paragraph 22). The combination of these two produces in the pupil a capability for rapid and certain calcula-

tion which would quite nonplus an English schoolboy. A small Hindu educated at home, is subjected to somewhat the following course:—

First, he learns notation, combined with tables up to 100 × 10.

Then he begins fractional tables, and carries them up to 100 × $5\frac{1}{2}$.

He continues plain tables to 100 × 100, and square-tables even higher. (I have found a very small boy in a school who could tell, without a moment's hesitation, the square of any number up to 1,000.)

Along with this, the four simple and compound rules are learnt as in our system, save that the Hindu's knowledge of tables spares him much of the cumbrous drudgery with which the English schoolboy is saddled.

Meanwhile the study of gurus has not been neglected. The more difficult and complicated are now taught.

A few special rules are also learnt, all really dependent upon tables. Such are rule of three by what we call the unitary method and interest by "ank." (The method is really the same in both.)

This is all the arithmetic usually learnt. Vulgar fractions (as such) and decimals are unknown. This is not inconsistent with the use of fractional tables, for the parts of the unit are not, in the native system, indicated by numerator and denominator, but are written (and often termed) as divisions of the rupee and the anna. Thus, if a malguzar wishes to express the fact that he owns three-fourths of a village, he invariably says that he has a twelve-anna share. Again, three-quarters, one and a half, etc., are not written $\frac{3}{4}$, $1\frac{1}{2}$ but ।।।., १।।. * just as though they were sums of money.

108. This system has the advantage of apparent simplicity and of real rapidity, especially for mental calculations. But

* In the Maratha country, $\frac{3}{4}$ is indicated by the figure 12 preceded by a mark like an inverted comma.

it has heavy counterbalancing defects for purposes of school instruction:—

(1) The complicated system of tables and gurus is largely a monopoly of the Bania caste. It is only partially known to classes not engaged in trade.

(2) Most children come to school, at the age of about six or seven, almost totally ignorant. To attain perfection in native arithmetic, home-instruction must be begun well nigh from the cradle. The child awakes to consciousness to find himself in a world of multiplication tables; and his mind shapes itself to this environment.

(3) A training in European methods is essential for those who are likely to proceed to an Anglo-Vernacular or even a Vernacular middle school. In rural schools, of course, these are but few; still, some full-timers will be found who intend to prosecute their studies further.

(4) The system ignores decimals, an elementary knowledge of which is essential for the comprehension of Patwaris' papers.

(5) Tables and rules of thumb are the guiding principles. These, while they stimulate memory and quickness of thought, leave untrained the reasoning faculty, which the European system of mathematics so largely develops.

103. Save for the use of a few simple gurus, the native methods were entirely ignored in our schools until the framing of the rural curriculum (paragraphs 38 and 39). This was a part of the mistaken policy which prescribed even English gymnastics for the village school. In 1899 a course was drawn up, which, based on European methods, yet includes sufficient of the Hindu system to give scope to native genius, to serve for the practical purposes of business, and to prevent the pupil from thinking that arithmetic, as taught in the school, is quite alien from the methods pursued in domestic life. On the one hand, the elementary rules, problems and rule of three (as being a useful mental exercise) are taught strictly upon European lines. Vulgar and decimal fractions are discarded, save that addition and subtraction of the latter to two places are taught

as a necessary adjunct to Patwaris' papers. (Full-timers, some of whom may proceed to middle schools, are taught L. C. M., G. C. M. and vulgar fractions in afternoon school.) On the other hand, the standard of tables has been raised to suit native ideas; gurus are retained; interest is taught on the native method, and the keeping of mahajani accounts has been made compulsory.

110. We can now proceed to consider in detail the methods of instruction—

(a) Written and mental arithmetic.

(*a*) *Written and mental arithmetic.*—The teaching of these two branches goes side by side, and in the initial stages is indistinguishable. As the master's ideas of teaching arithmetic (if he has any) are generally of the memorial and rule of thumb type, the great aim of the training schools is to force upon him the notion that it is useless to teach rules without illustrations and reasons. Hence the methods laid down for dealing with this subject, especially in the infant class and class I, are more precise and categorical than those prescribed for other parts of the curriculum. The use of simple apparatus is insisted on. The ball-frame was almost universally, and is still largely, used. Cowries or seeds, however, which are both cheaper and far more effective, combined with bags of various sizes, are now taking its place, while (for the teaching of parts of the unit) the third of Fröbel's kindergarten gifts is called into requisition. By these means, together with the black-board, concrete numbers and notation up to 10 are taught to the infants. With a view to showing how instruction is continued (both in the infant class and class I) I cannot do better than translate from the *Shikshaprabandh*, or School Manual, especially as to do so will give a specimen of this important text-book*:—

111. "Children have to be taught that the value of a figure changes with a change in its position. For this purpose, cow-

* The *Shikshaprabandh* is the work of Mr. R. McGavin Spence, M.A., Superintendent of the Training Institution, Jubbulpore. It is written in the vernacular, and deals, in simple language, with instruction and school management generally. It is a text-book in all training schools and its possession by masters is generally insisted on.

ries and small bags are of great use. Thus after the cowries (one, two, three, etc.) have been counted out, ten cowries should be put in one bag. Then the numbers 11, 12, etc., should thus be explained—One bag (10) plus one cowrie is eleven; and one bag (10) plus two cowries is twelve, and so on. The first figure 1 (*i. e.*, that on the left-hand side on the black-board) stands for one bag or the number ten, and the second figure 1, 2 or whatever it is (*i. e.*, that on the right-hand side on the black-board) stands for so many single cowries. In this manner the twenties (21, 22, etc.), and the thirties should be taught till the figure 99 is reached. After this the number 100 should be taught by placing ten small bags in one big bag. For a long time such numbers as 18, 36, 53, etc., should be taught with small bags and cowries; then the figures should be shown by writing them on the slate or the black-board. For instance, if a boy is told to show 53, he should take five bags each containing ten cowries and place three cowries by them; and then he should also at once write upon his slate figure 5 followed by figure 3. As an aid to writing figures, the master should draw a straight line upon the board on one side of which the units and on the other the tens should be written. If units, tens and hundreds are thus taught by means of cowries, etc., then the children will easily understand thousands and tens of thousands.

"When notation is completed the boy learns addition. This too should be taught by cowries, etc., and should be brought home to the child's mind by several repetitions. Addition on this system may be taught even before notation, by which means children, while actually learning notation, can without difficulty begin to add. This method is quite in accordance with the maxim 'One difficulty at a time.' A second maxim which must be observed is, 'Advance by degrees from the easy to the difficult.' The examples taught in the beginning must be very easy, such as, $\frac{2}{1}$, $\frac{2}{3}$, $\frac{3}{2}$, $\frac{}{4}$ $\frac{}{5}$ $\frac{3}{}$, and the master must carefully watch whether the children write the figures clearly one

beneath the other or not, and whether the lines beneath them are correctly drawn.

"Thus there will be a gradual advance from easy examples, and by practice each step will come to appear easy, till the time for accomplishing the more difficult steps arrives. Then, if necessary, cowries, etc., may again be resorted to for showing the method of addition. Thus, in examples where numbers are 'carried'—such as $\frac{25}{37}$: here take cowries for the two units 5 and 7, and add them; the result is 12 cowries. From this it is clear that we have got one ten plus two; and by adding the one of this ten to the remaining 5 tens, we get 6. This method of 'carrying' or 'figures in hand' should be shown over and over again with cowries, till the children begin to learn it thoroughly.

"Subtraction, too, should be taught precisely on the system above described; that is to say, children should first learn subtraction by the aid of cowries or pebbles, and should be able to show that the difference between five balls and three balls is two balls; and in this way other examples too should be taught them on the board or the slate, such as, $\frac{5}{3}$, $\frac{4}{2}$, $\frac{8}{1}$, etc. Subtraction involving 'carrying' must certainly be taught by means of cowries. Thus, suppose that 15 has to be taken from 32. In this example the children must be shown that 5 from 2 won't go. Then display 32 by means of three small bags and 2 cowries, and tell a boy to take away five cowries from it; he will at once open one bag of ten cowries and empty out its contents. The master should then say, 'See! only two bags of ten cowries each remain; and instead of two cowries we have now twelve.' This should be exhibited on the black-board as follows:—

$$\begin{array}{r} 32 \\ 15 \\ \hline \end{array} \quad = \quad \begin{array}{r} 2\ (12) \\ 1\ \ 5 \\ \hline \end{array}$$

and the boy, having taken 5 from 12 and 1 from 2, will be able to write the answer. There is some difficulty in subtracting by this method when there is a zero, as in $\frac{304}{27}$. Here there is no ten (in the upper figure); so we must take one hundred from

the three hundreds. We have then got two hundreds and ten tens. From these tens we must take one ten and add it to four which gives 14. The sum has now become:— $\begin{smallmatrix} 2 & 9 & (14) \\ 2 & & 7 \end{smallmatrix}$ and this sum is worked thus:—7 from 14 leaves 7; 2 from 9 leaves 7; 0 from 2 leaves 2; answer 277. By patient explanation and the use of bags of cowries, even the smallest children will be able to understand this."

112. Simplicity is here carried to the utmost length, and rightly so; for the masters require elementary instruction in these matters; and, in arithmetic, the beginning is everything. The *Shikshaprabandh* then proceeds to other rules. Before multiplication is begun, a considerable advance must have been made in tables. But even in so purely memorial a subject as tables, cowries must at first be used and reference made back to old tables (*e.g.*, 9 times 5=5 times 9; and the child already knows the latter). The use of cowries is likewise introduced into the actual teaching of multiplication and division. Then, the simple rules being understood, no difficulty will be encountered in their application to money, weights, measures, etc.

113. Meanwhile, mental problems are taught, the master first showing the use of fractional tables and gurus in very simple examples. Constant practice in this makes the boy quick to grasp the principle of proportion; so that the teaching of rule of three presents no difficulties. As to the native method of interest by ank, there are various ways of doing it in different localities. A simple example worked out in the clearest method is appended:—

Specimen of Interest sum worked by ank.

Find the interest on Rs. 570 at Re. 1-13-0 per cent. per month, for 1 year and 3 months.

First, find the "pakke ank," *i. e.*, multiply the principal by the number of months.

$$570 \times 15 = 8,550.$$

The interest on Rs. 570 for 15 months equals the interest on Rs. 8,550 for one month.

Then take the rate of interest bit by bit:—First, Re. 1; to find the interest at Re. 1, divide the pakke ank by 100. Next, annas 8; to find the interest by annas 8, divide the quotient of the last calculation by 2. Next, annas 4; for this, divide the last quotient by 2. Finally, anna 1; for this, divide the last quotient by 4. Then add all the quotients. The sum is the answer. Thus:—

570×15 = 8,550 pakke ank.

Interest at Re. 1	=	Rs.	85	8 0
„ annas 8	=	„	42	12 0
„ „ 4	=	„	21	6 0
„ „ 1	=	„	5	5 6
Rupees	.		154	15 6—the answer.

The rule of working is easily grasped by the boys. But it is suggestive that the reason for this very rule, though it is a part of the native system of arithmetic, is understood only with extreme difficulty.

114. It is not necessary to say anything regarding the extra subjects taught to the full-timers, since they are not strictly part of the rural curriculum. The same principle of teaching no method till it is understood, is pursued here also.

(*b*) Mahajani accounts.

115. (*b*) *Mahajani accounts.*—The study of accounts is commenced in class III, where (paragraph 22) the *roznamcha* or *kachchi rokar* is written. An example of this is given in Appendix A (8), which is a simple cash account for five days. It is perfectly clear; only a few words, not easily translated, demand explanation. "Shri" at the heading is a propitious term; "Sambat" is the Hindu era, dated from 57 B. C.; "Chait" is the name of a month; "Mani" is a large measure of grain. The *pakki rokar* is begun in class IV; but, as has been already mentioned, it is a stage which, where the transactions are few and small, may be and often is omitted. It is half-way to the *khata*, and assists the tradesman in transferring complicated accounts to that register. The example [Appendix A (9)] shows the same entries as those given in Appendix A (8), but arranged now, not according to date, but

under headings, such as the account with Jai Kishan Das, the House account, etc. It is, in fact, a consolidated account for the five days separately shown in the *roznamcha;* at its close, the balance is carried on to the income side of the next account for five days. Finally comes the *khata bahi*, which is a ledger for one year, each page being devoted to a separate account, and all transactions made during the year on that account being entered on that page, with references back to the *pakki rokar:* an example is given in Appendix A (10). As it is impossible to reproduce the pages, the dividing lines must be taken as indicating a fresh page in each instance. It will be noted that here the entries are those for the five days shown in the *rokar*, with others in addition, which are intended to show that the pages given are made up for the entire year.

116. The examples here given are of the simplest kind, such as would be useful in a rural school. The entries in the khata are not made on the more complicated system which a merchant would think necessary. The pakki rokar is here really superfluous and is only put in for the sake of completeness. If the page references of the khata were made to refer to the kachchi rokar instead of to the pakki rokar, the latter might be disregarded in examining these illustrations.

117. The method of teaching is as follows:—Each boy is supplied with two or three native registers. The master then dictates or gives copies of entries for the roznamcha; the boys enter these as income or expenditure, the master correcting mistakes. After that, the boys have to do everything, at first, of course, under the master's guidance. They strike the balances in the roznamcha; they transfer the entries to the pakki rokar (if that register is used), making it up for five, seven, fifteen or more days at a time as they are directed. Finally, they transfer the entries again to the khata. The great point is to make the boys do everything themselves; otherwise they will never understand the system.

118. *Geography.*—No subject in our schools is so badly taught as this. The reasons are the intrinsic difficulties of instruction in this subject, the influence of previous curricula, (5) Geography.

which masters cannot shake off, faulty methods of inspection, and the want of a really suitable text-book. Even now many a master is content if he can get the boys to repeat definitions learnt by rote, and reel off a list of the districts composing the province (even though the latter no longer forms part of the half-timers' course). But a gradual improvement is discernible, due, in large measure, to insistence upon the simplified curriculum.

119. The subject is commenced in class III. The theory is, that the boy advances from a knowledge of the school to that of the village and the village area; thence to the district, the Province, India and the world. A glance at Appendix A (4) will show that this is not thoroughly carried out in practice. The study of the patwari's map is relegated to class IV and is thus preceded by that of the district map, because the former goes hand in hand with instruction in Patwaris' papers—a subject which is commenced in earnest only in class IV. The Central Provinces and India, again, are omitted altogether from the half-timers' course, because their inclusion would unduly swell the curriculum. Still, the method of proceeding from the known to the unknown is generally adhered to.

(*a*) The school-plan.

120. A specimen of the school-plan is given, on a reduced scale, in Appendix A (1). The central room, flanked by two store-rooms, the master's table and chair, the bench for the committee, the cupboard, the verandah with its pillars, the compound wall, two garden-plots in front divided by a path, and the play-ground behind, are here indicated. Each schoolmaster draws the plan of his own school to scale, and hangs it on the wall. Instruction takes the form of showing the boys that this plan corresponds with the shape and proportion of the building. The position of each piece of furniture is likewise pointed out in the school and on the plan. The boys are taken outside and shown that the garden, the gate, etc., are correctly indicated on the map. The master next measures the school, makes a scale and causes the boys to apply this to the plan, asking them the length of the walls, etc. The position of the building with reference to the points of the

compass is then discovered by means of looking at the sun and examining the direction of shadows. By this time the boys comprehend the plan and find no difficulty when the master asks them to point out upon it this door or that window, or, *vice versâ*, to go and stand by such and such a chair or pillar as indicated in the map. The boys are next required to copy the plan on their slates; and the final stage is reached when this is turned face to the wall and each pupil draws up a scale and makes a plan on his slate from memory refreshed by glancing round the building.

(2) The district map.

121. Some schools contain detailed plans of the village itself; and it is highly desirable that boys should get an idea of the principal lanes, buildings and tanks and their positions and sizes relative to the school and to their own homes, before they proceed to the district map. This latter has been printed in colours for every different district. The village in which the school is situated is first shown to the class, and its position towards, and distance from, other points on the map which are known to the boys, such as neighbouring villages, main roads, the head-quarters of the district, etc. To impress the truth of the map upon the boys, they are occasionally asked to state distances which they know, and then made to measure them with a paper scale upon the map. In this way instruction passes from the known to the unknown, and the larger villages of the district, its tahsils, its hills and rivers, its roads and rail-roads, are gradually learnt. Thus a lesson will proceed somewhat as follows :—

Q.—What is the name of this village?
A.—Barcila.
Q.—On what road is it?
A.—The road from Jubbulpore to Mandla.
Q.—In what direction does the road run?
A.—From north-west to south-east (the boy is required to point in these two directions).
Q.—If you walk along the road towards Mandla what village will you come to?
A.—To Dobhi.

(Here Barcila, Jubbulpore, the road and Dobhi are pointed out on the map).

Q.—How far is it to Dobhi?
A.—Three miles.
Q.—And how far to Jubbulpore?
A.—Eleven miles.

(These distances are proved on the map by means of a paper scale.)

Q.—What do you meet on the road between here and Dobhi?
A.—One goes up a hill.
Q.—Of what range is this hill a part?
A.—Of the Satpura range.
Q.—Of what districts does that hill form the border?
A.—Of Jubbulpore and Mandla.
Q.—In which district is Dobhi?
A.—Just inside Mandla.

(Here the hill and the border of the district are shown on the map, and the hill is also pointed out from the window.)

Q.—If you go towards Jubbulpore, what river do you cross?
A.—The Gaur river.
Q.—Into what other river does the Gaur fall?
A.—Into the Nerbudda.
Q.—What other rivers fall into the Nerbudda?
and so on.

(c) Definitions.

122. As a preparation for studying the outlines of the world in class IV, geographical terms are also learnt. It is difficult to disabuse masters of the idea that this is accomplished when definitions are known by heart, and one example of each pointed out on the map. The prescribed method is to take the boys out to a tank, a river or a stream, and actually show them miniature capes, islands, inlets, etc., and then, on returning to the school, to make them point out the same on the map. This, it is to be feared, is seldom done, and raised maps or models in clay are conspicuous by their absence. Very fair maps of the world are supplied to schools, but their place is gradually being taken by globes. The globes are locally manufactured (paragraph 203) at the Normal school, the training classes and by masters selected for their neatness of workmanship. These last are allowed to make a little money by supplying globes (at a cost of Rs. 3 to Rs. 6) to other schools. They vary greatly in quality. The idea entertained by a half-timer of the precise meaning of a globe or a map is often regrettably small; there is no time to do much.

123. In class IV the elementary knowledge already acquired of geographical features is utilised in teaching the outlines of the world (the continents, oceans, chief countries, etc.) upon the map. The great thing, and the difficulty, is to make the master stick to the map and avoid lists of names. Special stress is laid on the British possessions, partly with a view to impressing on the boys the magnitude of the empire of which India forms a part. The intention is excellent, but the process whereby it is sought to be fulfilled is too often one of pure cram. The subject, no doubt, is a very difficult one to teach intelligently; and the masters themselves are often handicapped by their own imperfect knowledge. (d) Outlines of the world.

124. More satisfactory is the instruction in the causes of day and night. Where globes exist, this is actually carried out by means of a lamp. The shape of the earth, too, is generally understood by the boys, though it is not really easy to supply them with proofs of its roundness, especially as they regard eclipses of the moon as supernatural events. Ideas on the size of the earth are necessarily hazy, and it may be doubted whether, in the rural tracts, the pupils really believe any of the astronomical geography taught them. However intelligent and correct their answers may be, their idea of the earth, once they are outside the school-walls, probably reverts to that of a fixed body poised on an elephant which stands upon a tortoise. (e) Astronomical geography

125. With the patwari's map we are on safer ground. This, together with its use in the teaching of manuscript subjects, has already been described. Its study likewise forms part of the geography course; and its value is obvious in showing the position of fields, roads and tanks and the situation of neighbouring villages. It must, however, be remembered that this map is an actual facsimile of that used by the patwari, which, being purely for purposes of land record, does not clearly indicate buildings in the village, hills and physical features of importance just outside the area. To remedy this defect each boy is required to draw a copy of the map on a reduced scale on paper, omitting the mass of fields (often amounting to a (f) The Patwari's map.

hundred or more in a single area) and indicating only his own, but showing more clearly the chief buildings of the village and the principal physical features both within and immediately without the village boundary.

(6) Agriculture.

126. *Agriculture.*—It is to be noted that this subject is taught as part and parcel of the reading-lessons. Its inclusion therein ensures its study by the pupils, and obviates the necessity of furnishing a separate text-book. Hence Mr. J. B. Fuller's Agricultural Primer has been translated and inserted piece-meal into the third and fourth Readers. So important and characteristic is this branch of study, that a synopsis of the lessons must be given at great length. But it will most fittingly appear in the form of appendices to Section XII, which treats, among other matters, of the Normal agricultural class for schoolmasters. The reader is therefore referred to Appendix C (1), which gives the contents of the Primer; to Appendix C (2), where will be found details of the lessons, as imparted to the masters in the Normal agricultural class, to be by them repeated to the boys in their schools; to Appendix C (3), which contains the syllabus of demonstration work destined to give the master greater insight into the subject than would be gained by a study of the agricultural lessons of the Readers alone; and, finally, to Appendix C (4), where a list is drawn up of the simple apparatus which each trained master keeps by him, and of the experiments with which he illustrates the lessons before his pupils.

127. But to avoid misunderstandings, it is here necessary, once and for all, to define the meaning of the term "Agriculture" as it occurs in the curriculum of a primary school. And the best definition is, that it means the agricultural lessons of the third and fourth Readers. These are largely object-lessons. They do not pretend exhaustively to describe the processes of tillage, etc.; while they contain many useful practical hints, they yet aim less at the imparting of knowledge than at the developing of the faculty of observation and at the arousing of a taste for nature study. The methods prescribed for teaching them indicate that, together with the other lessons on common

objects, they answer to the *Anschauungsunterricht* or the *Heimatkunde* and *Naturkunde*, that form so important a feature in continental education, and which are framed to give the children right ideas about the things they see around them, to awaken in them the faculties of interest and observation, and to teach them to express their ideas in proper language. In a country where almost the sole occupation is that of agriculture, a study of the fields and their soils, of the parts of plants and their growth, of the success or failure of crops, and of the apparatus essential for cultivation, forms the best and fittest vehicle for imparting this type of instruction.

128. Our agricultural lessons, then, serve the following purposes. First (and most important) they direct the attention of the boy to the objects which surround him and which will fill so large a portion of his after-life, in such a way as to mould his mind for observation, for the proper reception of impressions, and for the grouping of impressions so received into an orderly system. This mental habit, once formed with reference to the objects of agriculture, will serve the man, not merely for the subject-matter with reference to which the habit was inculcated, but for all walks of life and for any occupation to which he may turn his hand. It is the bridge which spans the gulf between the concrete and the abstract, between perception and the faculty of right reasoning. Their second purpose (which is really but a special aspect of the first) is to put the boy in possession of some of the common natural truths which affect his surroundings. He is already aware that very thin soils are unsuitable for certain crops, and that a failure of the monsoon results in a failure of the harvest. He is now taught the causes underlying these facts, so that his practical knowledge henceforward rests upon a simple scientific basis. Their third purpose is to indicate where the operations of agriculture as practised in this country fall short of what they might and should be, and to point the way to small reforms which do not lie beyond the powers of the average ryot. This moral is enforced by the establishment of small experimental farms, like that at Shahpur described in Section X.

(7) Other subjects.

129. We have now surveyed the methods generally prescribed for every part of the rural curriculum, save drawing of geometrical forms (which is purely mechanical). History (save in a few exceptional schools), drawing (in the proper sense of the term) and grammar are prescribed only for full-timers. Hence a description of the methods therein employed forms no part of a study of the purely rural curriculum.

Section VIII.—EXAMINATION.

The Primary Examination.

130. We have now briefly to consider the examination which closes the rural primary course. It is called the Primary Examination and is open to all pupils of the 4th class of a primary school. It is conducted by the Deputy Inspector. Boards of Examiners may be associated with him; but this is not ordinarily done (nor could it easily be done) in rural schools. The Deputy Inspector does this part of his work during the period from December to March (both inclusive). Hence, of his three annual visits to the school, two are ordinary inspections, and the third is the annual examination. The examination is held strictly *in situ* and is of an informal character. Marks need not be, and are generally not, assigned, save in the case of full-timers who compete for middle school scholarships. Hence the marks given in Appendix A (15), which shows the subjects of the examination, are intended only as a scale of guidance in the relative values to be set upon the subjects against which they are noted.

131. The schools in which Patwaris' papers and agriculture may be dropped for grammar and history, are the few instances mentioned in paragraph 87 where the teaching of the former subjects would be useless, if not impossible, and where the boys are naturally for the most part full-timers who will very likely proceed to a middle school.

132. Candidates are supposed to pass (*i.e.*, answer sufficient questions to obtain 33 per cent. marks, were marks given) not only in each group but also in each subject. This apparently hard rule is intended to ensure proper teaching in such

subjects as Patwaris' papers and accounts, which would otherwise be neglected. As a matter of fact, there is no undue severity in this; and the Deputy Inspector, after his previous two visits of the year, ought to know who are fit to pass almost without holding an examination, while his instructions to the master should have secured that none save very stupid boys should fail.

133. Prizes are offered by the District Councils for proficiency shown in the examination in drawing, agriculture and a knowledge of common objects.

134. Successful candidates receive printed certificates, signed by the Deputy Inspector, and endorsed with reference to the boy's character by the head master of the school. The question has at times been raised whether these certificates should be in the Vernacular or in English. It has been decided that more value is attached to them if they are in the latter language. Certificates.

135. The obvious criticism upon our system of examination, and, to some extent, of promotion (see paragraph 80) is, that it leaves too little to the judgment of the master. This criticism would be valid were it not that education is not yet sufficiently popular, public opinion not sufficiently strong, and a large number of head masters not sufficiently trustworthy, to permit of dispensing with a higher agency of control. This may seem to be a heavy indictment against masters. But, until public opinion changes (one might almost say, comes into existence), the fault is both inevitable and venial. Were the examination committed purely to the master, the standard, despite fairly frequent inspection, would certainly tend to be lowered. A criticism.

Section IX.—DISCIPLINE AND PHYSICAL INSTRUCTION.

136. Discipline, so far at least as the commission of actual offences goes, is a matter on which much need not be said. The boy met with in rural schools is highly respectful and amenable to authority. Punishments, and the offences for Discipline.

which they may be inflicted, are prescribed in the Education Manual, and include imposition, corporal punishment, rustication and expulsion. But the punishment register is frequently a blank or nearly so. Ordinary class discipline is a more important subject. The *Shikshaprabandh* deals at some length with the matter. Silence, orderliness, prompt obedience, politeness and care in the use of books, apparatus, etc., are easily secured; punctuality is more difficult, owing to physical circumstances, the foolish indulgence of parents, and the fact that the Hindu generally is lacking in this virtue. Cleanliness, again, though scrupulously observed among the better classes, is often conspicuous by its absence in the children of small cultivators and labourers. And, though it is insisted upon in the Manual, its enforcement is rendered difficult by the fact that some of the boys are engaged pretty constantly in field labour and possess only a very limited wardrobe. Quietness and smartness in the moving of classes about the room, changing formation when an oral lesson ceases and written work begins, etc., are best secured by the appointment of class-captains, who are distinguished by badges and perform their functions very well. When the master is taking a class, the boys stand round him in a semi-circle, head up, heels together and book well away from the face. When they do sums or write dictation, they squat upon matting laid on the floor, in a long line, one behind the other, distance being taken by each boy placing his finger-tip between the shoulder-blades of the boy in front, and then extending the arm full-length. As soon as a boy has finished his sum, he lays his slate face downwards, takes his book, quietly stands up and begins to study his lesson. All words of command are given by class-captains in English; this is an old tradition, and the effect is a trifle ludicrous, especially that of the "Right hand salute by numbers, one, two, three," followed by a military salute. The indigenous salaam, as described in paragraph 14, is being introduced into some districts.

Physical exercises.

137. Closely connected with the subject of discipline is that of drill; a well-drilled school is invariably well disciplined.

The curriculum of physical instruction is given in Appendix A (16).

Three branches are taught:—

(1) Position, turnings and simple evolutions for getting into line, extending, etc.

(2) Extension motions and (in class V and VI of middle schools) balance and combined motions.

(3) *Deshi Kasrat.*

Were the last alone retained no harm would be done, as the text-book on the subject contains simple drill; and the exercises therein laid down are superior to extension motions. *Deshi Kasrat* alone, therefore, need here be described.

History of *Deshi Kasrat.*

138. English gymnastics on the horizontal and parallel bars were once insisted on in all boys' schools. The apparatus was constantly decaying or getting out of order; the masters did not know how to teach the exercises; the boys disliked them and used to injure themselves in practice; and the parents looked with suspicion on this new and apparently dangerous form of instruction. In 1896, Mr. Monro, the present Director of Public Instruction, decided to introduce a system of gymnastics more suited to the genius of the people. He entrusted the task of working out the details to Mr. Ganpat Lal Choube (now Inspector of Schools in the Feudatory States). In 1897 the latter officer completed his book upon the subject called *Deshi Kasrat ka Anukram.* This was at once introduced into every primary school. The change was hailed with delight, and this popular series of exercises is performed with zest in every school either before or immediately after the daily lessons, according to the time of year. All the exercises in this book are practically indigenous and of remote origin. They may be seen in any "Akhara" or native wrestling-school. The novelties introduced were (1) the systematising of the whole into a series of graduated difficulty; (2) the invention of suitable and descriptive names, so that the boy's memory is no longer strained to recollect what is intended by "exercise number one," etc., but the name suggests the thing to be done.

Exercises of *Deshi Kasrat.*

139. Properly to be understood, these exercises must be seen. Gymnastic instructors have already been sent from Assam and the United Provinces to the Training Institution at Jubbulpore to study the system. A general outline of the exercises has already been given in paragraph 27. All that can be added here is a synopsis of the contents of the text-book followed by a translation of the directions for performing one or two typical exercises [Appendix A (17) and (18)]. Among the latter, no illustration of the *daurs, chals* and *kulants* has been included, since they are of minor importance. Of all the exercises there is none, save the ekhatthi dand and the kulants, which, if it is taken in its proper place and practised, a boy of even poor physique cannot perform. In this gymnastic there is no expense, no apparatus, no danger; yet it is of the highest value in developing and strengthening the body.

Uniforms.

140. In popular schools, where the Committees are interested, it is usual for the villagers to raise subscriptions once a year and to present each boy (on the King-Emperor's birthday or some such suitable date) with a red coat, a red cap and a pair of yellow drawers such as wrestlers wear. The coat and cap serve as a uniform during school hours and doubtless have an influence on discipline and smartness. When the boys go out to exercise, they divest themselves of all clothing save the drawers, so that they are not incommoded nor are their clothes soiled.

Inter-school competitions.

141. At annual gatherings, such as sacred fairs, etc., teams from various schools meet together and compete in *Deshi Kasrat* and other sports. Subscriptions are raised and prizes awarded to the best athletes and teams. These contests were a characteristic feature of the local celebrations held in honour of the Coronation Durbar.

Games.

142. The infant class is kept amused during part of the school hours by organised games. Apart from this, organised games do not form a feature of rural schools. The half-timer (even of tender years) has more serious forms of occupation on which to employ his superfluous energy and his out-of-school hours. This does not mean that Hindu boys *never* play games.

Unless the operations of agriculture are pressing, tip-cat is generally played in the cool of the evening. But the management of this is wisely left to the boys themselves.

Section X.—SCHOOL-GARDENS.

Gardens in rural schools.

143. To almost every rural and vernacular middle school is attached a garden. Where gardens do not exist, it is because there is no available or suitable site for one, or because the soil is utterly unsuitable, or because there are no means of irrigation. The presence, however, of either or more of these causes does not necessarily mean that no garden is attempted. If the school is in the heart of the village (which is not generally the case), and is situated in a confined spot, a garden-patch is sometimes secured just beyond the inhabited area. If the soil is bad, beds are dug and good soil is brought in; or the system of "pot gardens" is resorted to, in which flowers and vegetables are planted in earthen pots in the school verandah. Finally, even if there is no well in the immediate vicinity of the school, water is often conveyed by the boys from considerable distances.

Objects attained by gardens.

144. The objects aimed at in starting school-gardens are various. An obvious one is the adornment of the school buildings and the impression of neatness and order produced upon the pupils. A second is to supply the classes with suitable objects for illustrating the important lessons on agriculture contained in the third and fourth Readers; thus the different parts of plants, the effects of various soils, irrigation, etc., can be studied and illustrated on the spot. Thirdly, it is hoped that, by introducing the cultivation of European and the better classes of native vegetables into schools, the use of these products (so often sadly neglected) will gradually spread among the cultivators and add a wholesome element to their food-supply. Hence the best type of garden consists of three parts:—

(1) The flower-garden.

145. *The flower-garden.*—This contains not only the usual perennials, such as roses, oleanders, etc., but English annuals raised from imported seeds. The flowers usually seen and those that best flourish in the climate are sun-flowers, hollyhocks,

petunia, phlox, larkspur, verbena and portulaca. I have come across a school in very remote jungles to which no seeds had been supplied for ten years. Yet nearly all the flowers above specified were flourishing in the garden, having been propagated from seed year by year, and showed no signs of deterioration. Not only do these plants serve the purpose of ornament, but their blooms are dissected under the microscope to illustrate the lesson on the "Flower"; they are used (together with wheat, pulse, etc.) in showing the different kinds of roots; and their stems and leaves contribute to some of the simple agricultural experiments.

(2) The vegetable-garden.

146. *The vegetable-garden.*—This is sometimes in a separate space from the flower-garden; sometimes vegetables occupy the centres of the plots, and flowers are planted on the borders. District Councils allot a small sum of money yearly for the supply of English vegetable (as well as flower) seeds from the Himalayas, from Poona, or some other good nursery; these are distributed to the schools. Vegetables successfully raised are peas, potatoes, cauliflowers, cabbages, knol-kol (kohl-rabi) and tomatoes. In the Raipur Circle (where the mud of numerous tanks supplies a first class manure), I have seen cauliflowers and tomatoes of almost incredible size produced; and the gardens of the Wardha and Chanda Districts are said to produce even finer vegetables. Besides these, native vegetables are grown largely with a view to showing how careful cultivation improves them; thus, a school garden will sometimes contain a bed of brinjals, etc., in enriched soil, and another bed of the same plant in ordinary soil, side by side. In the upland (or plateau) districts, where the soil is thin, vegetable-gardens are less numerous and successful. But in the lowlands they are almost always attached to schools and produce excellent results. Nor have they been by any means useless in popularising the cultivation of English vegetables. Many malguzars have started gardens in imitation, and import European seeds. Caste prejudices against the new form of food are not unknown; but they are, in most cases, easily overcome. The lower classes are more conservative and have less opportunity;

nor will the system have really attained its object, till the boys are induced to plant seed propagated at first from the school-garden, and afterwards from their own, in the small enclosures near the village which almost every inhabitant possesses for the growing of maize, mustard, chillies, castor-oil, etc.

147. *The crop-plot.*—This is a less common feature than flower or vegetable gardens. Its object is to illustrate the effects upon wheat, rice, juari, etc., of manuring and irrigation. Beds are also sometimes made of different kinds of soil; and the growth of cereals in suitable and unsuitable kinds is thus shown. The crop-plot.

148. Occasionally the crop-plot is developed into a small experimental farm, as the following account will show:— Example of an Experimental Farm.

Account of the Agricultural Farm attached to the District Council School at Shahpur.

In January 1902, the Director of Public Instruction visited this school. The compound having proved too small for a garden, the Director requested the malguzar to give the master a small piece of land near the school, which could be conveniently turned into a garden or an experimental farm. The malguzar gladly consented: and, before the commencement of the rains, gave the master a plot of an area of 1·4 acre with a well near it. This was fenced round by paid labour.

The land was divided into six parts, and in them were sown juari, cotton, tur (arhar) and, to a lesser extent, chillies and brinjals.

The land was ploughed with paid labour in the presence of the boys, who at times helped the labourers. Cotton was the first crop to be sown. No cotton is grown towards Shahpur. The master, Daulat Rao, is a resident of a village in the Multai Tahsil just on the borders of Berar (a great cotton-growing tract). He had been to Berar in May and had brought some good cotton-seed with him and also a weeding instrument called *daura* which is common towards the southern portion of the Betul District. This instrument is easy to use, is cheap and saves much labour in weeding. But in order that it may be employed, the seed must be sown in rows, the distance between which should be a little greater than the length of the *daura*. This obliges the cultivator to sow the seed sparsely and gives the plants sufficient air. These advantages were explained to the boys, to the malguzar and to some of the better tenants. Cotton seed was sown in the presence of the boys and the school committee. Some of the seed was given to the malguzar, who sowed it in a field and got a bumper crop.

Juari* and tur were sown in two ways—firstly, in the local manner, and, secondly, in the way the master had learnt at the Agricultural School,

* Juari is *sorghum vulgare*, a large millet which forms a staple crop in the drier parts of the province. Tur is a tall leguminous plant, from the seeds of which dal is made.

Nagpur. The difference between the results was shown by the outturn obtained according to each method.

Brinjals and chillies were sown in smaller beds. The produce of these was given to the boys; the other crops were sold. As this was the first year of the experiment, the master did not extend his field of operations nor keep full accounts. But on several occasions the members of the School Committee were taken to the field to see the boys at work and the difference between crops in their own fields and those of the school-garden.

The actual work was chiefly performed by the boys in the presence of the master and under his guidance. There were some eleven boys in the two highest classes; they were divided into groups of two or three each; and each group was made responsible for the cultivation of one of the plots. Thus two or three boys would work continually in the tur-plot (half of which was devoted to properly cultivated, and half to roughly cultivated, tur); the same was done in the juari and cotton plots. The beds of brinjals and chillies were given to the smaller boys. A spirit of competition was aroused between the groups, which thus worked zealously.

The points to note above are the introduction into the village of a new crop, a new agricultural implement and new ways of tillage for crops ordinarily grown.

Difficulties of maintaining gardens.

149. Sometimes each boy is given a bed in the garden to cultivate. Occasionally a little difficulty is experienced over labour; the better class boys profess themselves above manual toil; the lower have no time to bestow on garden cultivation. Thus hired labour has sometimes to be employed for the heavier parts of the work or for carrying water if there is no supply at hand. Ordinarily, however, the master and the boys till the garden; and the latter may often be seen bringing a long line of water-pots from the nearest source.

Arboriculture.

150. Arboriculture has not yet been attempted; but the Director of Public Instruction has drafted a scheme, based upon the institution known in American schools as "Arbor Day." According to this, each boy will, once at least in the course of his school career, plant a tree in the village or its proximity upon the King-Emperor's birthday, and will thenceforward regard and cultivate it as his own. This practice should tend to increase the boy's interest in the observation of nature (a faculty deserving of cultivation in an agricultural country); it is also hoped that it will improve the surroundings and shade of villages.

Section XI.—SUPPLY, PAY, AND PROSPECTS OF TEACHERS. THEIR QUALIFICATIONS.

Difficulties of the subject.

151. The writing of this section is fraught with difficulties. Exhaustive statistics cannot be obtained. Important changes are even now being carried out in the grading of rural schoolmasters and their scale of pay. The stamp of man obtainable varies immeasurably; and any statement put forward regarding qualifications can only be rough and impressional.

Appointment.

152. The appointment of rural schoolmasters lies with the District Councils (paragraph 50). But it is subject to revision by the Deputy Commissioner of the district, and to the proviso that no person, who does not possess the requisite teachers' certificate, may, *without the written permission of the Inspector* of the Circle, or except as a purely temporary measure, be appointed to the post of teacher. In practice, the Deputy Inspector is generally the appointing agency, his decision in this respect, as likewise in the fixing of a master's grade, being submitted for, and in most cases obtaining, the sanction of the School Board and the Council.

Pay of masters.

153. Taking the pay of both head masters and assistants, and excluding monitors, in British territory, we find that the average pay is just over Rs. 10 a month. The lowest pay of a head master is, at present, Rs. 8; it is now in process of being raised to Rs. 10; the highest is ordinarily Rs. 15, though a few receive Rs. 20. These are the purely educational emoluments. In addition to them, 414 masters receive extra pay for managing village post offices; and many have allowances for cattle-pounds, stamps and registration. Thus the total pay of a head master may come to over Rs. 20; but such cases are uncommon. This additional pay is of great importance in judging of a master's position. I regret that full statistics are not available; but, taking 75 masters (both head masters and assistants) purely at random, some of whom are in receipt of no allowances, we find that, while their educational pay aggregates Rs. 752, or just over Rs. 10 each, their additional pay comes to Rs. 153, which raises

their total individual pay to just over Rs. 12. The additional duties are very light. It must be remembered that a certain number of uncertificated men, who are not necessarily receiving the full pay of their grade, are included in these figures, and tend to lower the average salaries.

Grades of pay.

154. Hitherto different systems of pay have been followed in different districts. Salaries have been sometimes personal, sometimes attached to certain posts. Henceforward, all will be personal and masters will be regularly graded. As the general scheme has not been worked out in detail, the graded list of the Hoshangabad District (where pay has always been personal) is given as a specimen. It will be noted that, in this instance, the rate is just below the average:—

Grades of primary schoolmasters under the Hoshangabad District Council.

11	masters	at	Rs.	12
11	,,	,,	,,	11
26	,,	,,	,,	10
37	,,	,,	,,	9
18	,,	,,	,,	8

Pay of monitors.

155. The pay of monitors averages Rs. 3 a month. In a few cases only Rs. 2 is allowed; but this is enhanced from fees.

Prospects and status.

156. As to the prospects and status of the rural schoolmaster, the great disability under which he suffers is that his post, in the great majority of cases, is non-pensionable. No District Council master appointed on or after April 1st, 1885, is eligible for pension. Masters are encouraged to invest their savings in the Post Office Insurance; but few avail themselves of this means of provision. A master's social position varies with the popularity of education in the village, and, of course, with his own character. In the better class of village, he is almost invariably looked up to; and his association with the Committee (who, in such places, are men of good standing) confers upon him considerable dignity. In very poor villages, again, the isolation of his literary attainments makes him a man of weight. But he fares ill in a tolerably well-to-do village, whose inhabitants hold education at a discount, or whose malguzar is hostile

157. Thus the master's pay is unattractive; he has no free house to live in; and his social status is variable. After the age of 55 he is liable (though not necessarily likely) to find his services *dispensed with, and no pension to support his* declining years. On the other hand, he is not debarred from the holding and cultivation of land; nor is there anything to prevent a primary schoolmaster from rising to be the head master of a vernacular middle school on the respectable salary of Rs. 20 or Rs. 25 a month (excluding allowances). He is looked upon as a Government servant (though he is not really such), and hence, save where his profession or himself is markedly unpopular, *holds a recognised position. Finally, he can expend special* care upon the education of his own sons in the school and thus give them a good start in following his own or some other profession.

Stamp of men obtained.

158. The career is by no means unpopular. Applications for normal scholarships generally far exceed the number available. Nor is the class of candidate secured by any means a low one. During the past five years, between forty and fifty per cent. of the students *at the Training Institution has invariably* consisted of Brahmins and 7·7 per cent. of Rajputs; the numbers of other castes are small and variable. Muhammadans are 10 per cent. Turning to professions, we find in the present year that the parents of primary grade students in the Training Institution are employed as follows:—

Landowner	1
Agriculture	22
Government service	20
Private service	15
Trade	13
Artizan	6
Labourer	5
Professional beggar	3
Priest	1
	86

Popularity of the career as entered through:— (1) A normal school.

159. The terms on which a student enters the normal *classes* are, no doubt, attractive. He receives a free education for two years, at the end of which, unless he is either stupid or lazy, he obtains a certificate of distinct value. He is then bound to

serve for two years as a schoolmaster, after which he can (and generally does) continue in the same calling, with the hope, if he is fairly industrious, of rising to Rs. 15 or even Rs. 20 a month; or, if he finds the life uncongenial, he is qualified for other forms of work; masters who thus quit their profession generally enter private service (as agents, etc.) or become patwaris; their number is not large.

(2) A training class.

160. Training classes are far less popular institutions. The education is, indeed, gratis; but no stipend is attached; the instruction imparted is often of an inferior kind and by no means ensures success in the examination; and, if the candidate does pass, he obtains only an "untrained" certificate, whose value is less than that of a "trained" certificate. Still, in the richer districts, where education has become popular, these schools are well filled and turn out very fair material. In the wilder tracts or where rural education is regarded with suspicion by the people, they are generally failures. This is the more unfortunate, as it is just in such places that a supply of local men is wanted. As it is, masters from the better districts have to be sent to these jungly localities to keep the schools going. This particular kind of service is highly unpopular. The Hindu of the lowlands regards such a district as Mandla (not without justice) as a penal settlement, and its aboriginal inhabitants as the offspring of the devil. When he is ordered thither, his mother-in-law's condition is generally found to be so critical as to delay his journey; and no sooner does he reach his destination than he sits down to write a whole series of applications to the various inspecting officers complaining (often with only too much truth) that the climate is ruining his constitution. So long as he is serving his compulsory two years, he can be kept to his work; when these are ended he often becomes troublesome and sometimes absconds. But, as the number of certificated men increases, things are improving; competition has arisen, and the masters in undesirable districts are not so independent as they were a few years ago. These remarks, of course, do not apply to the majority of districts, where posts are eagerly sought after.

Adequacy of the supply.

161. The supply of masters, then, is, save in certain exceptional tracts, adequate; the caste and class of the men secured are generally respectable, and it is now sought, by raising the minimum pay, *to secure a still better type*. We have now to consider the teaching qualifications of the ordinary schoolmaster.

Proportion of certificated masters.

162. The great majority of masters are certificated. As early as 1881, 73 per cent. of the teachers employed in Government and aided schools held certificates. In the 680 primary boys' schools of the Northern Circle, with as many head masters and a smaller number of assistants, there are only 30 uncertificated teachers.*

Proportion of trained masters.

163. The figures given in paragraph 207 show roughly the proportion of trained to untrained certificated teachers. *During my last cold-weather tour, I inspected 131 District* Council primary rural schools in tracts where uncertificated teachers are numerous; the qualifications of the staff were as follows:—

	Head Masters.	Assistants.
Holding trained certificates .	82	9
Holding untrained certificates .	31	9
Uncertificated . . .	18	3
Total . . .	131	21

The number of untrained men is decreasing and may be expected finally to disappear. It might be argued that in view of the extension of the training course in normal classes to two years, *this view is optimistic. This is probably not so; for,* while the numbers annually presented for examination will doubtless decrease, the percentage of passes should be far higher. And additions to the number of scholarships are always possible, as funds permit.

Pedagogic aptitude.

164. But though the majority of masters are certificated we have yet to consider their natural pedagogic qualifications

* These figures are erroneous for one of the seven districts—namely, Mandla, where greater difficulties in the supply of staff are experienced than elsewhere. Here men who have been trained but have failed in the Teachers' Certificate Examination have been returned as certificated. But the error can make only a small difference in the general figure.

and the extent to which these are likely to be improved by a special course of study on the subject. This question is closely connected with that of method (Section VII) and that of training (Section XII).

165. A Deputy Inspector of doubtful ability once reported to me concerning a very incompetent master of a small and backward village in the following terms:—"I have warned this man over and over again to teach according to the Socratic and Pestalozzic methods, but he still takes no notice." Truly, between precept and practice a great gulf is fixed; and, however much our training may make for common-sense systems and solidarity of instruction, yet, unless some natural aptitude is already present, the seed is likely to bear but little fruit. And such aptitude is wofully lacking.

Possible qualifications of the Hindu.

166. The Hindu is possessed of two virtues which might be expected to qualify him for the art of teaching. The one is patience, the other domesticity. The former does, indeed, render him a good instructor in the more mechanical branches of study, such as writing, spelling and, to some extent, drawing; in other subjects it is liable to degenerate into indifference. The latter ought to make him a lover of children; and such he is to the extent of sparing them the pain of enduring (and himself the trouble of inflicting) mild, methodical and therefore wholesome penalties. But this does not prevent him from visiting trifling lapses with sudden blows and anger; and frequently the inspection of a class is sufficient to disclose that the boys are in the habit of having their ears boxed.

Disqualifications of the Hindu arising from:—

167. Against these two questionable virtues stands an array of vices derived from nature, tradition and practice. It is perhaps not too fanciful to suppose (indeed, it is stated by Compayré) that the two guiding principles of Hindu society and religion have militated against education in India. On the one hand is caste, the consequence of which was "an endless routine, with no care either for the individuality, or the personal talents, or the inclination of children"; on the other hand is Pantheism, which caused "the thought and will of the Hindu to perish in the mystic contemplation of the soul," and the

tendency towards which may be responsible for his fatal distaste for the concrete and love of the abstract.

(a) Nature.

168. More certain and more important than these theoretical effects, is his want of moral fibre. The native schoolmaster is not possessed of that conscientiousness and stubborn sense of duty which carries the European through tasks in "hours of gloom fulfilled," and which finally converts even indifference into enthusiasm. Hence spring laxity and work perfunctorily performed. Hence, too, the inspecting officer cannot afford to dispense with the goad of reproof or punishment—a state of things which produces relations less cordial than they might be and a method of inspection which, while it may be necessary, is not the best. Another grave disqualification is the want of originality. Not only must the native master be ordered to do everything, but he must be shown how to do it (hence the somewhat rigid precepts of our normal classes and the *Shikshaprabandh*); it is unsafe to leave anything to individual initiative —an additional reason (see paragraph 87) for the unelastic character of our curricula.

(b) Tradition.

169. Passing from nature to tradition, we have already seen how the indigenous teacher was satisfied if the children memorised poetry without understanding it and mastered a few mathematical formulæ. With him we have little to do (though even to-day, in aided schools managed by denominational societies, it is common to find a Maulvi who makes such of the boys as are of his persuasion learn page after page of the Koran while neither he nor they comprehend a word of Arabic). The schools here have been but seldom established on the foundations of indigenous institutions; we have had to find and to mould our own material. Yet the tradition persists. The Hindu schoolmaster has practically no aptitude in maieutic methods of instruction; to get pupils to answer set questions in set form is his end and aim. Again, it is often complained of the educated classes in India, that they do not keep up their reading or pursue their studies in after-life. The complaint holds good regarding the village schoolmaster. A few indeed read the great epics. But the majority are content to retain

or to forget that which they learnt while at school or under training. Thus their knowledge remains very limited; nor are their minds stimulated even by the perusal of light literature.

(c) Present practice.

170. As to present practice, the very methods taken to remove the above-mentioned defects react in other ways against the effectiveness of teaching; the distances to be traversed and the number of schools to be visited by inspecting officers, and the system of examination hitherto pursued, all tend in the same direction. The result is that the master strives after effect rather than thoroughness and that inspection has often (hitherto) been unable to pierce below the veneer.

Summary of disqualifications.

171. Apart from a certain lack of moral fibre and professional enthusiasm and apart from the paucity of his knowledge, the more technical defects of the native teacher may be summed up as follows:—

(1) Want of power of extraction or maieutic method. This arises from the traditions of memorising and rule of thumb, and the desire to make the boys cut a respectable figure at a somewhat hasty inspection. It results in "cram," an inability to conduct object-lessons, and a failure in developing the powers of observation and reasoning.

(2) Want of concentration. This is the result of a desire to "cram" combined with imperfect preparation of lessons. It leads to disconnexion in the series of questions asked, the master omitting to choose some central theme round which the lesson shall hang. Hence the attention of the pupils is dissipated; their interest is not aroused, and mind and memory alike are confused by the presentation of a string of disjointed facts.

(3) Want of illustration. The Hindu has an aversion for the concrete. To perform an experiment not only is a worry to him but it smacks of vulgarity. His idea of education is to turn out pupils capable of uttering certain words (whether those words convey meaning to their minds or not, is to him largely a matter of indifference). To aid the ear with the eye, to prove his own statements by facts, above all to connect, in the boys' minds, the truths imparted in school with the visible

world that lies around them—these things are not dreamed of in his philosophy. If a boy speaks according to the book, it is immaterial whether he believes (or understands) the subject-matter or even whether the book itself be true. (A well-known officer of the province, on entering a school, once asked the master whether he taught that the earth went round the sun or the sun round the earth. "I teach," replied the master, "that the earth goes round the sun." "Are you sure of that?" "Quite sure." "But which do you believe?" "I believe that the sun goes round the earth.") This habit of trusting to words alone, and despising the help of the black-board, the picture, the object-lesson and the illustration generally, is the worst defect with which we have to deal. It produces in the boy that frame of mind in which, when he enters the school-room, he shakes off his real self and the sensible world that surrounds him, and passes into a land of dreams, which, as he returns homeward, fade away, instead of being recalled and vivified by the sights and sounds around him. It is, finally, opposed to the whole theory of modern education from Locke to Herbart—the theory which bids us build up in the child's mind an ordered world of experience, based upon sense-perception, and rising, without gap or intermission, to reasoned truth. Let us not be unjust to the Hindu schoolmaster; for he is no monopolist of this defect. Most of us can probably remember at least one preceptor of our early days whose class-room was like another world, unconditioned by ordinary experience, where, if two and two continued to make four, it was only thanks to the master's good-will. Unfortunately, such preceptors are very common in our schools.

172. It is to counteract these defects that the infant class curriculum is based almost solely on the use of objects; that our schools are filled with maps, pictures and models; that many lessons of the Readers have reference to what the boy sees every day of his life and are, indeed, informal object-lessons; that, finally, the system of training, to be described in the next section, has been instituted.

Methods of combating them.

Section XII.—THE TRAINING OF TEACHERS.

Kinds of teachers' certificates.

173. No master is considered to be permanently secure in his post till he has become a certificated teacher. The certificates issued are of three kinds:—

(1) Trained certificates, which can be obtained only by passing through a Normal school.

(2) Untrained certificates, which are awarded on the result of the same examination as that which closes the Normal school course, to candidates who have either served for a year in a school under Government inspection, or studied for not less than two years in a Training class.

The examination for these two classes of certificates is held annually in October, and will be described later on.

(3) Approved service certificates, which are given by the Director, on the recommendation of an Inspector only, to such uncertificated schoolmasters in Vernacular schools as, being over thirty years of age, have rendered conspicuously efficient service. This rule is intended to provide for experienced and efficient masters who have not had the chance of earning a certificate and so are in danger of being ousted from their posts by younger, but certificated, men. The award of such certificates is very rare.

Classes of primary grade certificates.

174. Of primary grade certificates there are two classes—one (called the 1st class) open to those only who have passed through the 4th class of an Anglo-Vernacular middle school; the other (called the 2nd class) open to those only who have passed through the 6th class of a Vernacular middle school. Up to the present date, there likewise existed a 3rd class primary grade certificate, for such as had passed through the 5th class of a Vernacular middle school. This has now been abolished. In addition to the general educational tests here noted (in which the candidate is strictly examined), there is likewise, of course, a special test, varying for each grade, in pedagogic subjects. We have here to deal only with the primary grade, of which the 1st class may, for practical purposes, be neglected, since the

special test is the same for both classes. Moreover, very few masters who have passed through the 4th class of an Anglo-Vernacular middle school are to be found in primary or, indeed, in any class of schools; as Vernacular teachers they would reap no benefit from their English education; nor has that education gone sufficiently high to qualify them as teachers in Anglo-Vernacular schools. Hence but few men of this standing enter the Department; and there are no special facilities for their training.

175. The institutions established for training primary schoolmasters are the following:— Institutions for training primary teachers.

(1) The Training Institution for teachers at Jubbulpore. This is the only school which teaches up to the collegiate and secondary grades. It likewise contains large primary grade classes, so that it is really, though not in name, a Normal school as well as a Training Institution.

(2) The two other Normal schools at Nagpur and Raipur. These differ from the Training Institution only in so far as they do not teach above the primary grade. At Jubbulpore and Raipur pupils are instructed in Hindi; at Nagpur in Marathi.

(3) The training classes attached to Vernacular middle schools. These are sixty-two in number, and are of very unequal value. In 1902 the Director said that they "have not altogether proved a success, and the question of their re-organisation will have to be considered." Their establishment is regarded only as a temporary measure, till the number of posts not held by certificated men shall be so far reduced that the Normal schools can fill them with trained incumbents. To encourage the head masters, rewards of Rs. 10 are given for every pupil who passes the Teachers' Certificate Examination.

(4) The Normal agricultural class at Nagpur. This is intended to give an extra training in agriculture to certificated teachers, so as to enable them efficiently to handle this important subject.

All these, except the first, are under native superintendents or headmasters. The collegiate and secondary grade classes

of the Training Institution are personally taught, and the primary grade classes supervised, by a European expert.

Normal school scholarships.

176. The Normal schools are kept filled by the offer of numerous scholarships. The number and value of these, tenable in each institution at one and the same time by students reading for the primary grade certificate, are:—

Jubbulpore Training Institution.

40 scholarships at Rs. 6 each per mensem.
80 „ at „ 5 „ „ „

Nagpur Male Normal School.

15 scholarships at Rs. 6 each per mensem.
25 „ at „ 5 „ „ „

Raipur Male Normal School.

8 scholarships at Rs. 6 each per mensem.
20 „ at „ 5 „ „ „
20 „ at „ 4 „ „ „

In addition to these, thirty scholarships of Rs. 5 each are offered to husbands of female Normal students at Nagpur and Jubbulpore. Non-stipendiary students, who have passed at least the Primary Examination, are also admitted. But their numbers are very few.

Selection of scholarship-holders.

177. Scholarship-holders are selected in the following manner. Once a year Deputy Inspectors send in lists of suitable candidates (generally monitors) in their respective ranges, with all necessary information, to the Inspectors. On the general principle that a man will prefer to serve in his native district, the Inspector then proceeds to select, having regard to the wants of each district in the way of certificated teachers. Those nominated proceed to the institution and there undergo an examination in general knowledge and suitabilty. This examination is of an informal nature and is conducted by the Superintendent, who at once forwards, on its result, recommendations of retention or rejection to the Inspector. When these have been in turn submitted to, and approved by, the Director, they are carried into effect. Each scholarship-holder must fulfil the following conditions:—He must be not less than 17 years of age, protected from small-pox, of good moral character

(as certified by a responsible officer) and of sound health (in attestation of which a medical certificate must be produced); he must also bind himself in an agreement to serve as a teacher in any part of the province for a term of not less than two years after his course of training is concluded, the penalty for non-fulfilment being the refund by him to Government of such sums as shall have been drawn by him in the shape of stipend; if a student is under age, a security bond must be furnished.

178. No fees are charged in the Normal schools or Training classes, and boarding accommodation in the former is offered free. Fees.

179. With a view to tracing the student's career while under training, we had best take a concrete example. The primary grade department of the Training Institution will serve this purpose, as the course, curriculum, and discipline are the same there as in the Normal schools of Nagpur and Raipur. (1) The primary grade department of the Training Institution at Jubbulpore.

The Primary Grade Department of the Training Institution at Jubbulpore.

180. As has been already stated, the institution contains a collegiate and secondary grade class for men who are, or will become, teachers in high and Anglo-Vernacular middle schools, and primary grade classes for those who will become teachers in Vernacular (chiefly District Council primary) schools.

181. The buildings occupy a large space of land on the confines of the city, which contains class-rooms for students, a practising school, a boarding-house, a garden, a gymnasium, a drill-ground, a cricket-field, a lawn-tennis court, and a badminton court. Of the 88 (primary grade) students at present on the roll, 64 live in the boarding-house, others being accommodated in licensed and supervised lodging-houses close at hand. The boarding accommodation and the site in general are not all that could be desired; and it is under contemplation to rebuild the whole in a better situation at a very large cost. Premises.

182. The entire institution is under the control of a European Superintendent, whose pay rises by annual increments of Rs. 40 from Rs. 300 to Rs. 500 a month. The remainder Staff.

of the staff is occupied in the instruction of the primary grade students and consists of:—

An Assistant Superintendent	drawing	Rs. 100	a month.
An Assistant Master	drawing	Rs. 70	a month.
Ditto	ditto	60	ditto.
An Assistant Master	drawing	Rs. 50	a month.
Ditto	ditto	40	ditto.
A Drawing Master	ditto	50	ditto.
A Gymnastic Master	ditto	15	ditto.

One of the assistant masters is occupied solely in the practising school. The scale of pay is about to be raised all round. The five assistants at present include two B. A's, one F. A. (Intermediate) and two Matriculates. All are men possessed of long experience in teaching.

Material supplied to the class.

183. The term commences on November 1st, when the candidates just selected by the Inspector assemble and are tested in their capabilities by the Superintendent. All of them have passed the Primary Examination; those who had gone through middle schools formed, in 1901, only 13 per cent. of the whole, and in 1902, 20 per cent.; in the present year no more than 3 per cent. had studied in middle (and, curiously enough, all in Anglo-Vernacular middle) schools. Most have served an apprenticeship as monitors, during which period they have picked up some ideas of managing a class of small boys, but have often unlearned a portion of what they knew when they passed the Primary Examination. A brief description of the question-papers set by the Superintendent at the last test will give some notion of the students' qualifications on entering the institution. The language-paper contained a couplet of poetry for explanation, a letter of fifteen lines to be written on a set subject, the outline and moral of a story in the 4th Reader to be written down (without books), the parsing of a simple sentence and some easy questions on grammar (which some of the boys, having learned no grammar, would be unable to tackle). The arithmetic paper consisted chiefly of problems with a few sums in fractions, decimals and interest. An example of one of the problems is given:—"Divide

Rs. 329-7-9 between A, B and C in such a way that A gets Rs. 7 more than B, and B gets Rs. 2 less than C." The dictation was a rather difficult passage from the 4th Reader. The geography paper contained questions on definitions, India and the British Empire; thus:—"Give the sources, the provinces through which, and the directions in which, the following rivers flow: Brahmaputra, Godavari, Jumna, Tapti."

184. After unfit candidates have been rejected, the vacancies thus created are filled up by admitting youths (generally from urban schools) whose qualifications are known, but who (on the principle of selecting most candidates from districts most in need of certificated teachers) had not been previously nominated.

185. The average age of the finally selected students varies from year to year from eighteen to nineteen years. At present the oldest is twenty-seven; in 1899 a candidate of thirty-three years was admitted; but that is unusual. It is generally found necessary to make one or two exceptions to the seventeen years of age rule; and thus a few particularly promising lads of fifteen or sixteen are sometimes found as students. Age of pupils.

186. The students are then distributed into classes. Hitherto, there have been three parallel junior classes for those about to appear in the examination for the primary grade, 3rd class, and a fourth and higher class, called the senior class, for those who, having already passed that examination, are studying on for the primary grade, 2nd class. Now that the primary grade, 3rd class, has been abolished, there will be two sets each of two parallel classes or sections, all studying for the primary grade, 2nd class, examination. The first two sections will consist of students in their first year; the second of students in their second year. Formation of classes.

187. The principle of distribution followed is the equalising of the sections in respect of qualifications of students; thus the most promising candidates are not all grouped together, but are equally divided among both the parallel junior sections; the same is the case with the least brilliant.

Daily routine.

188. A student's day is mapped out as follows:—He rises at 5 A.M. in summer, at 6 A.M. in winter, and during the first hour, plays games, or practises gymnastics, or drills. From 7 to 8-30 he prepares some of his lessons. From 8-30 to 10-30 he is employed in the lengthy process of bathing, cooking (unless he belongs to a mess) and eating his meal. Work in the class occupies the central part of the day, from 10-30 to 4-30, after which he takes his evening meal. There is then an hour of relaxation, during which games are played, the newspapers read, and so forth. From 6-30 to 8-30 he is required to attend the night class, which is held in one large room under supervision, and where he prepares the bulk of his task for the ensuing day. The remainder of the evening is spent in his own room; here he can continue to work, converse with his friends, or otherwise amuse himself.

Curriculum.

189. The curriculum consists of two parts:—

(A) The general educational preparation.

(B) The special professional preparation.

(A) comprises the curriculum of the 6th Vernacular class, the subjects (optional or semi-optional in middle schools) of patwaris' papers, grammar, agriculture, history and, in nearly all cases, drawing, being insisted on. It is given in Appendix B (1); and paragraph 200 contains some account of the text-books and subjects.

(B) The special professional training comprises the following syllabus:—

(1) The kindergarten system.

(2) The best method of teaching the subjects prescribed in the curriculum for Vernacular schools.

(3) The art of oral teaching generally.

(4) The form of school registers, the mode of keeping them and making returns from them.

(5) Notes on lessons.

(6) The organisation of a primary school, and the methods of maintaining order, and inculcating principles of truthfulness, obedience and general morality.

The text-books used are a simple translation of the elements

of the kindergarten system and Mr. Spence's *Shikshaprabandh*.

190. In addition to these two main divisions of instruction, a course of manual training is given. This consists of two parts:—

(1) Cutting, folding and mounting of coloured papers, and the designing of patterns, as in Ricks' system.

(2) The manufacture of globes, in the method described in paragraph 203. This not only serves to practise the student in neatness, but it also teaches him incidentally a good deal of geography and arms him with a valuable piece of school property. Each student is expected to make two globes while under training; one of these he takes with him to his school, if it is not already provided with one; the other is sold to some school not possessed of a globe.

191. Drill, *Deshi Kasrat* and English gymnastics form an important branch of training. Cricket, lawn-tennis, etc., are also played; and the institution sends in a team for the local athletic tournament for high and Anglo-Vernacular middle schools.

192. The time-table and the proportionate distribution of hours among subjects are shown in Appendices B (2) and (3). It will be noticed that the time-table is for the new arrangement of two parallel sections of junior and senior classes. Time-table.

193. It remains to speak of the practising school. This consists of Anglo-Vernacular middle classes (for the collegiate and secondary grade students), Vernacular middle and primary classes. These classes are entirely taught by the students, each of whom is sent into the practising school twice a year for a week at a time. It is the special duty of one of the assistant masters of the institution to remain in this department and supervise instruction. Students are also required to watch the efforts of their fellows and write criticism notes. Besides this, model lessons are given in the course of class-work. Practising school.

194. At the close of the course, an examination is held, and successful candidates are presented with certificates. The Examination.

number of passes in recent years from the Training Institution has not been so large as might have been expected; at the close of 1902, 29 passed out of 60 presented. The principal cause of this is probably the large number of subjects which had to be studied by the majority of pupils in a single year. Under the new system this will be remedied.

Disposal of pupils.

195. The students are then dismissed, a list of those belonging to each district being sent to the Deputy Inspector, who arranges for their employment. The majority are at once put in independent charge of small schools; those who are not yet capable of such work become assistants, generally in the primary departments of Vernacular middle schools. A register is maintained in the Training Institution, showing the employment of each student for at least two years after he leaves.

(II) The Training classes.

196. So much for the Training Institution and the Normal schools. We now pass to the Training classes.

Their position in Vernacular middle schools.

197. These are attached to Vernacular middle schools, sometimes called "town" schools. They might be more properly described as higher primary schools, since they simply continue the instruction given in a primary school through two further standards. All the pupils of such a school are treated as full-timers, attending for six hours a day, and, in the 3rd and 4th classes, studying a more literary curriculum than that prescribed for purely rural schools. Thus, a choice of optional subjects is given—drawing, kindergarten occupations and manual training, object lessons, grammar, and history. Not more than two of these may be studied by any one pupil; one of them must be drawing, if any member of the staff holds the certificate of the Bombay School of Art. In certain schools, where it is considered desirable to dispense with the teaching of Patwaris' papers for agriculture, grammar and history are treated as compulsory subjects in their stead. If a boy, on passing the Primary Examination, wishes to continue his studies, but either does not desire or cannot afford the luxury of English education, he may pass on to the 5th and 6th vernacular standards.

The curriculum of the latter is, with slight modifications, that shown in Appendix B (I). On completing this course to the satisfaction of the head master the pupil receives a certificate. Such an education, however, does not much help the candidate for employment; true, its certificate is supposed to qualify for more highly paid posts than does the primary certificate; but its recipient, though he has gained an insight into his own language and has put a finish to his vernacular education, remains ignorant of English, and so finds the more remunerative grades of service closed to him.

198. Partly, therefore, to supply the career which otherwise such instruction would not offer, and partly to utilise town schools for the production of teachers, Training classes have been added to a large number of them. The work of these classes is carried on side by side with that of classes V and VI. The difference is that a pupil of the former reads free of charge, and studies, in addition to the curriculum prescribed for the ordinary pupils of the 5th and 6th standards, the special professional course detailed in paragraph 189 under head (B).

199. Were we to glance at such a school, we should find a reproduction of the primary school described in section II. But everything is larger—the garden, the building are both larger; the staff is larger, containing perhaps two assistant masters; the time-table is larger, for all are full-timers; the number of classes and their size are larger. For the Vernacular middle school is opened only in little towns or large, central villages which boast their market-day or even a small bazaar of permanent shops—places, in fact, whose educational needs would not be satisfied by an ordinary primary school, but which are unable to support an efficient English-teaching institution. Description of such a school.

200. Passing over, then, the primary classes, with which we have already gained sufficient acquaintance, we find that the Readers prescribed for classes V and VI contain not only general lessons, but, in continuation of the series of lessons started in the third and fourth Readers, special chapters upon

Indian polity and the British Empire, agriculture and botany, zoology, physical geography, elementary political economy, and even something of anthropology. The wisdom of so extensive and serious a course of reading may be questioned; but it should be remembered that the ideas are expressed in the simplest language. The multiplicity of subjects is, however, rather calculated to leave the mind of the pupil confused. Writing includes the reproduction of stories, etc., from memory, and school exercises. Arithmetic for the fifth standard includes vulgar and decimal fractions, double rule of three and simple interest; for the sixth standard, the whole of that ordinarily taught. Physical geography is prescribed together with map-drawing and a knowledge of Asia and Europe. Agriculture is taught from the lessons in the Readers (which now deal more with botany than with practical questions); and a new element is introduced in the teaching of physical science. It is sometimes said that the technical terms of European sciences cannot be reproduced in oriental language, and that this is a strong argument for carrying on the bulk of instruction (at all events of higher and special instruction) in English. Yet now before us is the translation of a book on elementary science in Hindi (and it has been translated into other vernaculars as well), in which all the technical terms are Sanskritic, with the exception of such untranslatable expressions as "Bramah Press" or "Leyden Jar". Moreover the terms, though derived like our own from a dead language, are simpler, more comprehensible, more descriptive. Thus, "Keshakarshan" (a mere translation of capillary attraction) is more likely to convey a meaning to the Hindi boy than our own expression to an English boy. And surely "Snehakarshan" (force of affection) is a more convincing and an easier term than force of cohesion. To illustrate these lessons, the school is supplied with apparatus—vessels for showing the properties of liquids, their upward pressure; a section pump in glass; a thermometer and a barometer; an air-pump (not always out of order), and an electric machine with a jar. All these are compulsory subjects—a wide and varied curriculum; the optional subjects offered are manual

training, drawing, grammar, history, mensuration and surveying.

201. These classes generally include a certain number of pupils, who, desiring to become village schoolmasters, are studying for the Teachers' Certificate Examination. Such pupils constitute the training class, and, in addition to the subjects above named, receive special instruction to fit them for their vocation. The would-be schoolmaster must become acquainted with the elements of the kindergarten system, so that he may supervise work in an infant class or class I. The text-book for this is in Hindi and is a simple, straightforward work. Next, he must study the normal methods of instruction in each subject which he is likely to have to teach. Here he has the aid of the *Shikshaprabandh*, again in Hindi. Thirdly, he must gain practical experience in oral teaching. For this purpose, the primary classes are used as a practising school, to which the students repair in turn and either teach one class in one subject for a week at a time, or instruct it for a day in all subjects. Periodically, the training class is called upon to sit as audience to the lesson delivered by one of its members and to write down "criticism-notes" upon his style of instruction and general management of a class. Yet a fourth point is to learn how to draw up and maintain the school registers, the most important of which we glanced through in paragraph 79. The next subject is the writing of preparation notes on lessons of various kinds; each student is required to keep a note-book containing annotations on the reading lessons of the text-books, model questions to be set in arithmetic together with the best method of working them out, notes on geography, agriculture, and so forth. The sixth and last division of the curriculum is the general organisation of a primary school with reference to drawing up a time-table, maintaining discipline and impressing upon pupils the elements of good manners and good morals. Its training class.

202. The whole of the work of these classes, it must be remembered, is carried on in the vernacular; the students know no English, nor would its study be of value to them in their future career. As to their personality, what strikes us most is

their extreme youth; it is, indeed, a fault often found with these classes that they turn out certificated schoolmasters at too immature and irresponsible an age. But this plan has one advantage, that the special training is undergone by the boy while his intellect is still bright with the precocity characteristic of orientals, and before that rapid deterioration has set in which commences about the age of seventeen or eighteen. Let us ask this smart lad of sixteen to teach rule of three to the fourth class; he will go through the lesson with a gravity, a clearness of expression, which, in the slow-growing occidental, would not be developed till seven or eight years later.

Manufacture of globes.

203. A feature of the best training classes, which is being gradually introduced from the Normal schools is the manufacture of globes. The village-potter moulds the requisite number of large clay balls; but the rest is entirely the work of the student; who covers the ball with stiff paper in layers, scrapes out the substructure of clay through a small aperture, and then does the drawing and colouring. It is not an easy process, but the results are generally far better than might be expected; and the practice has the double advantage of teaching the student a good deal of geography and of providing him with a valuable piece of school apparatus which he takes with him to his school.

Encouragements to training.

204. With a view to encouraging the training classes, the students are required to pay no fees; and the head master receives a bonus of Rs. 10 for every candidate who secures a teacher's certificate.

Examination for trained and untrained.

205. Thus a training class is a reproduction in miniature of a Normal school. The difference lies in the inferiority of its staff and the consequently lower efficiency of the training given. This is why only "untrained" certificates are given to pupils from such a school, as also to masters who appear privately. But the candidates present themselves at the same examination with the Normal students, save that they are not necessarily required to produce specimens of manual training. This examination is held annually, in October, at the three

centres of Jubbulpore, Nagpur and Raipur, for Normal students; the Inspector of Schools of the Circle superintends; Training class pupils and uncertificated masters are examined either at these or at local centres, where the Deputy Inspector conducts the examination. It is a lengthy affair, searching papers being set on every part of the curriculum. In addition to this written work, the Superintendent of the examination tests each candidate separately in the teaching and discipline of an actual class, examines him in reading aloud and in ability to perform and to teach drill and *Deshi Kasrat*, and inspects specimens of manual training and globes produced by Normal students.

Relative values of such certificates.

206. An untrained certificate is naturally considered of lower value than a trained certificate; but there is no reason why the holder of the former should not, if he shapes well as a teacher, rise to the highest posts open to the rural schoolmaster.

Figures.

207. A few figures regarding pupils enrolled, passes and cost are subjoined. They refer to the year 1901-1902:—

		Average number enrolled.	Number passed out.	Total cost.	Cost per pupil.
				Rs.	Rs. a. p.
Normal school or Primary grade classes of Training Institution.	Nagpur . .	33	25	*9,921	283 7 3
	Jubbulpore .	54	46	9,592	117 10 3
	Raipur . .	22	22	4,929	113 13 6

Moreover, 191 candidates appeared that year from the Training classes, of whom 68 were awarded certificates. Thus it will be seen that the number of trained, exceeds the number of untrained, teachers who are annually turned out.

Criticism.

208. There is one point in the whole of the system of training above described which can hardly fail to suggest itself. The student, in the great majority of cases, commences his

*The high figure for Nagpur is explained by the fact that some of the cost of the Training Institution (subsequently transferred to Jubbulpore) has been included.

course of special professional training at a time when his general qualifications are not one whit higher than those possessed by the top boys of the highest class which, immediately after his training is completed, he may be called upon to teach. Hence it is during his period of training that he is obliged to attain to that higher standard of general knowledge which it is desirable that every teacher should possess and which he reaches through the text-books and curriculum of a Vernacular middle school. For this reason our Normal schools and Training classes are largely teaching institutions; the element of training is, to some extent, forced into the background. It is true that in the future the extension of the course to two years for the lowest class of the primary grade will to some extent obviate this difficulty. But it must be remembered that the new course prescribes a higher standard to be attained; and it remains a question whether the postponement of training till after the completion of a further general education would not be more beneficial to the student. This could be managed only by the interpolation, between the primary school on the one hand and the Normal school or Training class on the other, of a species of institutions, similar to the *Präparanden-Anstalten* in Germany, which should not train, but should prepare for training. At some future date it is possible that our Vernacular middle classes may serve this end. At present, the want of trained teachers is still too urgent to admit of any but the sytem already in vogue.

209. Another matter in which improvement could be made is the organisation of practising schools. The Training classes have this advantage over Normal schools, that they are possessed of efficient primary departments, fully staffed and in excellent working order, to serve as models for the students; but this advantage is generally more than discounted by the inferiority of the staff entrusted with the actual work of training. In the practising schools, on the other hand, it is not always easy to fill the classes with desirable pupils, since some parents object to their offspring's intellects being made the *corpus vile*

of a raw apprentice's experiments. The single assistant, too, detailed to superintend this department, is incapable of efficiently controlling and guiding the attempts of all of the batch of students sent at one and the same time each to undertake a week's instruction of a separate class. Above all, a student, though he gains experience of teaching a single class, has no chance of taking (with the assistance only of a monitor) a whole school sub-divided into classes and sections. And, till he has been shown how to do this, he cannot be really capable of an independent charge. All this points to the desirability of establishing model schools, with proper staffs, as adjuncts to the Normal schools.

Training in agriculture.

210. The teaching of agriculture* (as embodied in the agricultural series in the third and fourth Readers, which is a translation of Mr. Fuller's Agricultural Primer) is considered of such vital importance, that a certain number of schoolmasters and of students who have just passed through one or other of the Normal schools, are sent for six months' training to the Nagpur Agricultural School. It may be asked why this extra expense is involved, and why training in this subject is not entrusted to the ordinary Normal classes. The answer is twofold. In the first place, the immediate proximity of the experimental farm affords an opportunity for object-lessons and practical instruction which cannot be secured elsewhere; and in the second place, a staff of specialists is more competent to deal with this subject than the masters of the Normal classes, who possess only general qualifications.

(III) The Nagpur Agricultural School.

211. The following is a short account of this institution.

The Nagpur Agricultural School, especially the Normal Agricultural Class.

The school, as at present organised, consists of three sections:—

Section I.—The English agricultural class, in which students pass through a two years' course of training in agricul-

* It must be remembered that the word "Agriculture" is used throughout in a limited sense, as defined in paragraphs 125—128.

ture, preparatory to receiving appointments in the subordinate Revenue Departments.

Section II.—The Normal agricultural class, in which schoolmasters and students who have just completed their training in a Normal school undergo a course of instruction for six months in order to qualify them to teach in village schools the agricultural lessons embodied in the Readers.

Section III.—The malguzari class, in which the sons of landowners and others who intend to make farming their profession in life undergo a course of one year's training in practical farming.

These sections were not established simultaneously, but form a gradual accretion (made from time to time as the wants which each fulfils came to be recognised) upon the Nagpur Experimental Farm. The proximity of this farm and the fact that its Superintendent is generally one of the school staff are of great value in securing to the students a sound practical training. Section I was founded in 1888. In 1891, Section II was added; there was at first only one class; a second was created in 1897. Section III was established only in 1902; it differs from Section I in that the instruction is here imparted in the vernacular, is confined to practical training, and is intended for those who will be actually employed in the operations of agriculture.

Control and staff.

212. The entire institution, though placed under the Department of Public Instruction, is directly under the control of the Director of Agriculture. It is under the immediate supervision of a Principal, who, in addition to his salary as a master in the school, or as Superintendent of the Farm (whichever he happens to be), receives an allowance of Rs. 50 a month. Under him is the following staff:—

			Rs.
1st	Assistant drawing	150	a month.
2nd	„ „	125—150	„
3rd	„ „	80—100	„
4th	„ „	50—70	„

A veterinary instructor, a drawing master and a drill master (who have likewise other duties to perform) are also attached. Of the assistants, three hold the Diploma of the Science College, Poona, and one the Agricultural Diploma of the Bombay University.

213. The class rooms and the hostel are situated on the farm. Better class accommodation and laboratories are being supplied by the erection of the Victoria Memorial Technical Institute, which, when completed, will be the centre of the work of the Agricultural Department. The hostel has recently been enlarged so as to contain all students of all three sections. Premises.

214. So much for the institution as a whole. We have now to consider in greater detail the organisation of Section II (the Normal agricultural class). It comprises two separate and parallel classes taught respectively by the 3rd and 4th assistants. The actual cost of teaching in 1901 was Rs. 1,776-3-3, which works out to Rs. 26-2-0 per pupil. The scale of pay has, however, been recently raised, bringing the cost up to Rs. 2,555, or Rs. 38-2-1 per pupil; nor does this sum include scholarships of students or acting allowances for substitutes of masters under training. Certain figures cannot be obtained, but, in the year under consideration, these charges can hardly have been less than Rs. 4,000; nor does this include travelling expenses. Cost.

215. The year is divided into two terms, commencing respectively in June and November. A fresh batch of pupils is sent up for each term—only masters for the former, both masters and students for the latter. Thus, in 1901, 44 masters arrived in June; and 31 masters and 37 students from the Normal schools in November. Each batch remained for six months, so that 112 pupils underwent training in the course of the year. Of these, 97 were awarded certificates of fitness. This is by no means the highest total; in 1897, 132 were admitted, and 126 passed out successfully. If all the figures for the past ten years be taken, we find that 974 pupils have undergone training, and 889 certificates have been issued. Admission and number of pupils.

Selection of pupils.

216. Pupils are selected in the following manner:—

(1) Students from the Training Institution and the Normal schools are nominated by the Superintendents of those institutions from among successful candidates at the close of the Teachers' Certificate Examination in October. Each student so selected receives all travelling expenses and a scholarship of Rs. 5 a month during his six months' training.

(2) Masters already employed in schools are selected by Deputy Inspectors at the rate (ordinarily) of two masters from each district for each of the two terms. The nominees must be between 19 and 30 years of age; and the list must receive the Director's approval. They carry with them the full pay of the posts on which they are serving, a *locum tenens* being in each case provided and paid for by the body which manages the school from which each master is selected—*i.e.*, by the Department, by a Municipality, by a District Council, or by the manager of an aided school. Save in the case of these last, selected masters also receive their actual travelling expenses.

Sources of expenditure.

217. The salaries of the teaching staff and the general cost of up-keep of the institution, together with the scholarships and travelling expenses of students, form a charge upon Provincial Revenues. The salaries of masters under training, their travelling expenses, and the extra cost involved by the appointment of substitutes are paid by local bodies or by private managers.

Curriculum.

218. The curriculum has now been almost confined to that which the master will have to teach in his school, *viz.*:—

(i) The agricultural lessons in the third and fourth Readers (*i.e.*, the translations of Mr. Fuller's Agricultural Primer).

(ii) The patwari's registers and map.

(iii) Practical gardening, etc.

(iv) Drawing (as useful for general purposes, object-lessons, etc.)

The practice of *Deshi Kasrat* is continued. The course of agricultural instruction is made as practical as possible, each pupil cultivating a small plot of land adjoining the school.

Experiments are also insisted on. The curriculum in agriculture alone demands further description; and it has been deemed that this should be given at considerable length.

219. The subjects of some of the agricultural lessons have already been indicated in paragraph 93. In Appendix C (1) the contents of the Primer are given in their logical order, as they stand in the original work. All the lessons are contained in the Readers; but, for purposes of convenience, their order has, in several instances, been changed, and their number reduced from eighteen to the fourteen agricultural lessons of the third and fourth Readers, easy lessons being given in the former and repeated in an enlarged form in the latter. The printed synopsis which shows the methods of dealing with these lessons and which, together with the other subjects shown in the time-table, forms the curriculum of the Normal agricultural class, is translated in Appendix C (2).

This synopsis of practical work is sufficient to indicate their outline, without adding a further lengthy abstract of the lessons. A study of it will show the prominent part played by object-lessons and experiments and the large amount of out-door work insisted on. This latter is very effective in the agricultural school, owing to its being situated on the experimental farm. When the master comes to repeat this scheme in his village school as a part of the agricultural lessons, there are not always the same facilities; and, of course, many teachers are too lazy thoroughly to perform the field work when they get back to their schools.

220. But this is not all. A syllabus of demonstration is given in Appendix C (3), which is worked through in the Normal agricultural class. Its intention is to give to the master a knowledge of plants, agricultural implements, etc., a standard above that which he will be expected to teach to class IV. Some of the instructions are the same as those given in the synopsis translated in Appendix C (2); others, however, go beyond this, and are intended merely for the information of the master, not for repetition in his village

school. Since, therefore, the syllabus does not necessarily refer to the lessons of the third and fourth Readers, it will be seen that the lessons have been placed in the more logical order of those in the Primer, to which they refer.

Time-table. 221. The time-table is given in Appendix C (5). In addition to the two hours a week specially devoted to practical work, many of the agriculture lessons are held out of doors in the fields of the experimental farm.

Examination. 222. At the close of each term an examination is held. The examiners are selected from amongst gentlemen not connected with the instruction of the pupils. The results, as has been seen from the figures given above, are gratifying. Successful candidates receive certificates.

Apparatus for teaching Agriculture. 223. Before leaving the institution to join or rejoin their posts, the newly certificated teachers are supplied with a set of simple apparatus, the cost of which is Rs. 4, and a pamphlet (in the vernacular) with pictures describing its use, which has likewise been demonstrated in the course of instruction. By means of this apparatus the master is enabled to illustrate with object-lessons the agricultural lessons of the Readers and even to carry instruction (for full-timers, etc.) a little further. It is an important point of inspection to see that this apparatus is in order and its use known and appreciated. A brief description of the apparatus and the experiments is given in Appendix C (4).

Section XIII.—INSPECTION.

The inspecting staff. 224. The inspecting staff consists of the Director of Public Instruction, three European Inspectors of Circles, and twenty-nine native Deputy Inspectors of Ranges. All these are pensionable servants of Government. There are, besides, a native Inspector and a number of Deputy Inspectors attached to, and paid by, the Feudatory States. Our business here is to give in greater detail the pay and qualifications of Deputy Inspectors in British Territory; and, secondly, to delineate the prescribed methods of inspection for all inspecting officers.

225. The Deputy Inspectors are graded as follows:— Deputy Inspectors; their grades.

			Rs.	
2	Deputy Inspectors	at	200	a month.
3	,, ,,	at	150	,,
4	,, ,,	at	125	,,
6	,, ,,	at	100	,,
6	,, ,,	at	80	,,
6	,, ,,	at	60	,,
2	,, ,,	at	50	,,
33				

226. The average age of the present Deputy Inspectors is nearly 35 years. As regards academic qualifications:— Their qualifications.

3 are B.A.'s.
12 are F.A.'s.
14 are Matriculates.
—
29
—

Henceforward, none of lower standing than F.A.'s will be appointed. In addition to this, 24 are possessed of Teachers' Certificates; and of those certificated 12 have been trained in one or other of the Normal schools. Above all, 24 have served as masters in schools, the average period of their service being 7¼ years.

227. Two special examinations are prescribed for Deputy Inspectors, or those anxious for appointment as such. One of these is called the language test, the candidate being required to pass in some one of the following languages (not being his mother-tongue):—Hindi (with a knowledge of both Devanagri and Arabic characters), Marathi, Uriya or Telugu. He must show in the examination:— Their examinations.

(1) Ability to translate into English, in writing and *viva voce*, passages in the vernacular, selected from standard authors, equivalent in difficulty to those prescribed for the Matriculation Examination of the Calcutta or Madras Universities, and to answer questions on grammar, idiom and the technical terms used in instruction.

(2) Ability to translate from English into the vernacular a passage from a standard English author.

(3) Ability to converse with ease and fluency in the vernacular with a native on such subjects as may be selected by the examiners.

228. The other examination is called the administrative test. The candidate is required to display a competent knowledge of:—

(1) The general duties of a Deputy Inspector including the drafting and docketing of letters and précis-writing.
(2) The Central Provinces Education Manual.
(3) The topography and population statistics of the circle in which the candidate is serving or wishes to serve.

The paper set in this test is a very stiff one; and the passing of the examination is a matter of considerable difficulty.

Their efficiency.

229. The stamp of men obtained as Deputy Inspectors is decidedly good. This is the more to be wondered at as the duties are onerous and the life hard and wearing. Their (hitherto) low academic qualifications do not fit them for initiative or independence of action. But these things are not required of them. In routine work, in patient inspection, and in organisation in accordance with orders issued, Deputy Inspectors do wonderfully well.

Duties of inspecting officers.

230. The Education Manual lays down the duties of various inspecting officers.

Duties of the Director.

231. The primary duty of the Director is to administer the Department and advise the Local Government as to educational policy. He likewise inspects institutions of all sorts, unifying and controlling the work of Inspectors. He spends some months of the open weather in touring among rural schools.

Duties of the Inspectors.

232. The work of Inspectors is two-fold: firstly, to administer their own circles, especially with reference to the appointment, transfer, etc., of masters; secondly, to inspect all institutions in their circles. This second duty is, owing to mere extent of area, sufficiently onerous. An Inspector

has up to 30,000 square miles to range over, and up to nearly 1,000 institutions to look after. Many of these latter are, of course, urban schools, which are inspected during the rainy season. But the Inspector's circle generally contains some 700 rural schools (most of which are primary); with a view to seeing a proper percentage of these, he proceeds into camp in November, and remains touring continuously for five months or more. In theory, the Inspector sees all primary schools of his circle once in three or four years. In the towns, inspections are really far more numerous than this; but in the districts, certain schools are so remote and isolated that they can be seen only at great expense of time, and hence are visited at rare intervals. The inspection aims at securing that the Deputy Inspector is carrying out the policy of the Administration.

233. It will proceed somewhat as follows:—His visit being expected (see paragraph 12), the Inspector is met outside the village by the Committee, and questions them as to the work and suitability of the master, the popularity of the school, etc., till he arrives at the building. He then sets the school to work; sees that the classes are properly seated and organised, and that the time-table is followed out; and, while he listens to the master's method of teaching, or now and then strolls into the verandah to see what the monitor is about, he glances through the registers with the aid of his camp clerk, who, meanwhile, is collecting statistical information. Should any inconsistency appear in the registers or between them and actual attendance, an enquiry is made. Otherwise, having referred to the few last entries in the visitors' book, the Inspector proceeds to examine each class in several subjects, with special reference to any matters noted as having been found weak at previous inspections, or newly introduced by the Department. (Each Inspector must, with a view to qualifying for this part of his duties, pass a searching examination in Hindi—in both Devanagri and Arabic characters—and in Marathi, within the first five years of his service. If he is posted to the Eastern Circle, he must likewise pass in Uriya.

One of the tests consists in instructing and examining a class in any subject named by the examiner.) Having satisfied himself regarding instruction, he next sends the boys out for physical exercises, and, while they are lining up, looks round the building and apparatus, takes down any suggestions of the Committee as to alterations, repairs, etc., and makes his own comments on size, ventilation, cleanliness and general adequacy. An examination of the boys in drill and *Deshi Kasrat* invariably follows; and the inspection closes with a distribution of prizes (supplied by the Committee or the Inspector or both) in the shape of books or money, to the best scholars and attendants, and of sweets to the whole school. Riding ten or fifteen miles, an Inspector will get through two or even three such inspections in the morning, that is from six to eleven or twelve o'clock. He then writes up the visitors' books of the schools seen, mentioning particularly the state of the house, the teaching abilities of the staff, and the instruction, mental and physical, of the classes. He adds suggestions for the master's guidance. He next jots down an abstract of this information in a brief diary, which is monthly submitted for the orders of the Director, and despatches his office work. By this time the day is over. But the Inspector (likewise the Director), before closing the day's work, summons the Committee of any school, seen that day, which is particularly well managed. The members are seated on chairs before the tents; and the inspecting officer makes them a speech in the vernacular upon the merits or defects of their school and the general advantages of education. He then thanks them for their interest in the school and for the prizes and sweets they have supplied. Finally, he distributes to them *pan supari*, the native sign of hospitality.

Duties of the Deputy Inspectors.

234. The Central Provinces comprise 115,894 square miles. Of this, seventy-five per cent. is British Territory, in which are established 2,123 primary boys' schools. Hence, on the average, a Deputy Inspector's range contains 3,000 square miles and 73 primary boys' schools. In addition to this he has to inspect girls' schools, Vernacular middle schools and second grade

Anglo-Vernacular middle schools. His duties are three-fold:—first, to carry out the administrative orders of the Inspector; secondly, to inspect every school in his range at least thrice a year; and, thirdly, to combine his inspection with instruction, such as model lessons and the illustration of drill and gymnastic, to the master. In fact, he is, in theory, largely a travelling schoolmaster, whose duty it is to instruct the teachers of his range. As a matter of fact, the mass of work which he has to perform, the necessity (alluded to in paragraph 168) of continually pushing on unenthusiastic schoolmasters, and, above all, the traditional attitude of the native superior in this country to his subordinate, combine to make his visit primarily the occasion for an examination, and render his relations to the teacher those rather of a task-master than of a friend and instructor. This may be regrettable, but, to a large extent at least, cannot be avoided. So strong is the official sentiment among natives of India, that the Deputy Inspector who is familiar with the schoolmasters is found to lose his influence and proves a failure. Still there is no doubt that these officers might do more, even at the risk of less strict examination, in the way of supervising methods and suggesting improvements. A novel feature of their inspection will, in future, be lantern displays. At the present moment, each district is being supplied with a lantern and a set of slides for the use of the Deputy Inspector during his tour.

235. Whenever the funds of a District Council permit, the Deputy Inspector holds a Masters' Conference once a year at head-quarters. The schoolmasters are brought in from every side and undergo some five days' special instruction in new subjects and in *Deshi Kasrat*. Essays are also set and discussions are held. Masters showing the greatest proficiency receive prizes. Contests in games and sports are also held for the boys at local gatherings.

Other inspecting agencies.

236. Besides the officers of the Education Department, the Chief Commissioner himself, Commissioners of Divisions, Deputy Commissioners, Tahsildars, and Local Board members

inspect such schools as fall on the line of march. The attention of those last mentioned is chiefly directed to externals, the securing of attendance, etc.

Section XIV.—SCOPE AND AIM OF RURAL SCHOOLS. CONCLUSION.

Considerations limiting the scope of rural education:—

237. The various factors which have contributed and still contribute to the production and maintenance of primary education in these provinces have now been passed in review. We return, whence we started, to the picture of a rural school, and ask, finally, what is its aim and what can it accomplish.

238. In this connexion, it is first necessary to consider the limitations under which the Department labours. These spring from various causes:—the financial position, the conditions of an agricultural people, the pedagogic material at hand, and, lastly, the mental habits of the pupil.

(a) Financial.

239. We have seen that the interests of primary education are safeguarded, and that its requirements are met in a liberal spirit. But liberality is limited by a narrow exchequer and the needs of the province in other directions. The present estimated annual expenditure on District Council schools alone (exclusive of inspection, training, etc.) is Rs. 3,76,055 (paragraph 55). In 1901-02 the expenditure on primary boys' schools in British Territory amounted to Rs. 3,52,159, the cost of each primary school to Rs. 191 per annum, and the cost of educating each primary pupil to Rs. 3-5-0. Or, including girls' schools and schools in Feudatory States, we find the expenditure on primary institutions (urban and rural) amounted in that year to Rs. 4,70,321, and the total expenditure upon public instruction of all sorts to Rs. 11,10,972 among a population of 11,873,029. If children of a school-going age be reckoned as fifteen per cent. of the population, this gives a total annual expenditure of just below ten annas per child. If the sums spent on high and university education be deducted, the expenditure per head will be lessened. (Were we to take 15 per cent. of the population of England and Wales and that sum

only which is expended on elementary education and training colleges, exclusive of administration, we should arrive at an expenditure of not less than £2-7-0 per child. But such a comparison is hardly fruitful.) Later figures are not available; when they are published, they will show an improvement. This paucity of funds reacts in various ways upon rural education. It limits the spread of schools; since the people will not indulge their children to any large extent in education, unless it is paid for out of public money. It limits the pay of schoolmasters and renders the service less attractive than it otherwise might be.* It places modifications upon the amount and efficiency of the special training which can be given.

240. Ample allusion has already been made to the desirability of shortening, as far as possible, the daily hours of instruction for the children of the agricultural and labouring classes. The half-time system may be regarded as an established and wholesome principle; but it necessitates a curtailment of the curriculum, and the sacrifice of the literary to the utilitarian element. The omission (in almost all cases) of grammar from the half-time course is perhaps not to be regretted; but the amount of poetry learnt is not by any means sufficient to cultivate a taste for the national literature; the long series of useful lessons in the Readers render the volumes a trifle dull; and the only accomplishment attempted is the rather unattractive form of kindergarten drawing practised in the lower classes.

(b) Due to agricultural conditions.

241. It has already been pointed out (paragraph 75) how, when the British entered the Central Provinces, indigenous schools were almost extinct. The hereditary gurus or pundits had not flourished during the period of anarchy; some had had their throats cut, others had fled to more congenial spheres of action and many had abandoned their profession in disgust or sighed over empty class rooms. Where schools did not exist,

(c) Due to pedagogic material.

* It must be recollected that improvements are being made in this respect (see paragraph 153).

the art of teaching too was lost. And, where it survived, it was bad; for the indigenous teacher treated his pupils like parrots. Hence the Department had to start afresh, and, while creating schools, must create likewise masters to instruct them. There were no traditions to follow; the material at hand was raw and second-rate; the methods of training adopted were alien to the genius of the people. We are still struggling under this disability and only gradually feeling our way towards a type of pedagogy which, while eradicating defects, shall still not reduce the teacher to a piece of mere mechanism. Till our staff is improved, it would be foolish to attempt, or to expect, too much.

(*d*) Due to mental habits of the pupil.

242. It is right that the way of teaching should follow the European and not the native type; for the latter takes but little account of reason, which is a gift to the whole human race. But, when we come to consider the thing taught, the case is very different. Here the mental faculties of the pupil must be reckoned with. The intelligence of the Hindu boy is, as has been stated before, acute; it is not (nor does it in after-life tend to become) wide. The danger is, that the knowledge poured into it may "hang in air" and, unconnected with the ideas suggested by his immediate surroundings, vanish into nothing so soon as the mental strain is relaxed. Until a very few years ago the curriculum for rural schools in this province was but too likely to produce only a vague and evanescent superstructure. The Readers were couched in a language practically foreign to the people, yet worshipped as a fetish because it represented "pure Hindi." Perhaps the purpose aimed at was the preservation or even the resuscitation of this really beautiful language by disseminating it among the schools. The re-establishment of Anglo-Saxon by making it the standard medium of ideas in English Board schools would (considering the scanty percentage of pupils to population in India) be a comparatively sane idea. Arithmetic was of the European type—vulgar fractions and a modicum of English weights and measures; and geography consisted merely of a number of definitions learnt by rote and often radically mis-

leading or incorrect, with, as background, strings of names (physical features and political divisions) which might safely be *forgotten as soon as* the examination was ended. Now, on the other hand, an attempt has been made to bring the course of instruction into line with the pupils' experience. The Readers are in the plain vernacular. It is true that here and there complaints still arise that this or that passage contains too much Urdu, or that another is obscure by reason of its Sanskritic vocabulary; but it may safely be asserted that, so far as is possible, the language adopted is the *lingua franca* of the country and no longer a forgotten speech used only by the pundits. The reading and writing of letters in manuscript has added elasticity to this branch of study; and arithmetic (for half-timers) excludes almost all that is foreign to native calculation. Plain tables and fractional tables (both dear to the Hindu) are largely insisted on; and the wisdom of this is perceived in the approbation of the School Committee when a small boy in the second class calls out without hesitation what is three and a half times seventeen. Vulgar fractions are eschewed as alien to a genius which calculates only by sixteenths and twelfths. Decimals are admitted only so far as they bear on patwaris' papers. Rule of three is rightly admitted as the main step in the comprehension of problems; but interest must be calculated on the native, not the European, method. As for geography, there is but little prescribed which will carry the pupil's imagination beyond the village border, the hills seen from the school garden, the streams frequented in his childhood. It may be argued that it is just that faculty of imagination which requires stimulating. But the limits of time and utility preclude; and, it must be added, the stimulating effect of geography, as of history, is felt only in the mind ready prepared by a wider course of previous study, by a life spent in the proximity of books, of pictures, of cultured conversation, of a thousand memories. And has not our rural scholar his folklore, his beautiful legends of Ram, of Harishchandra, of Chitragriv and the good Hiranyak, wherewith his Readers supply him, and which will serve to people with visions

the well-known woods and streams? That is a step in imaginative instruction which must precede anything to be gleaned from lists of the provinces or rivers of an empire. The same policy is adhered to in the infant classes, where the nursery rhymes and childish games of the country are prescribed; and, more than in any other branch of instruction, in physical training. Five years ago, the visitor to a rural school was treated to a display of "right-turn," "left-turn," "stand at ease," "right dress," and "eyes front"; of flaccid "extension motions," where the correctness of the English (and hence meaningless) words of command was thought more of than any effect of extension on the body of the boy; to a hypocrisy of English gymnastics on single and parallel bars. Now we have *deshi kasrat* with something of European method grafted on an indigenous system of athletics, enjoyed by the boys and admired by their elders.

The aim.

243. Having considered these conditions, by which the scope of our system must be limited, we can now proceed to the question "What is the aim of our rural education?"

A comparison.

244. The key-note to the answer will be found in the fact that the Indian cultivator is at present struggling in an age of transition or revolution—a revolution which is being slowly forced upon the masses by their rulers for the ultimate benefit of the former. This being so, it is curious to remark that, as we glance back through the pages of history for some system comparable to our own, we should find a startling parallel in the proposals of Condorcet, as set forth in his famous *Rapport*—proposals framed to suit the exigencies of a revolution the very opposite to this in character. It is true that the false mottoes which that revolution inscribed upon its banners led him into many absurd errors—the basing of education upon politics, the erection of the educating body into an *imperium in imperio*, and the belief that education can produce equality and perfection. But, in purely practical results, there is a striking similarity between our gradually evolved system and the proposals which sprang from the brain of Condorcet touching the grades of instruction, the syllabus for primary schools, and the end

and aim of elementary education. His primary and secondary (or higher primary) schools, *Institutes*, *Lycées* and National Society of Sciences and Arts, correspond respectively (if we may compare great things with small) to our primary and Vernacular middle, Anglo-Vernacular middle schools, high schools, and colleges. His course of elementary study comprises the "three R's", grammar (wanting in our strictly rural syllabus), simple methods of measuring a field and a building, simple description of the products of the country and the processes in agriculture and the arts, the development of the first moral ideas and rules of conduct derived from them, and the simple principles of social order. These last four items are reproduced in our elementary geography and the study of patwaris' papers; in the lessons upon agriculture and common objects; in the poetical aphorisms of the Readers, the series on sanitation and the lessons of advice; and in the historical pieces which tell of British rule and the benefits which it has conferred upon India. Finally, there is his practical definition of the aim of these studies:—"In the primary schools there is taught that which is necessary for each individual in order to direct his own conduct and to enjoy the plenitude of his own rights."[1] Provided that we interpret "rights" as those, not of the citizen of a republic, but of the member of a village community, we have the best possible definition of the result aimed at in our rural schools.

Utilitarian intention.

245. For our object is in the main utilitarian. Even as regards the general intention of the system, this is apparent. The moral instruction given derives no sanction from the teaching (in school at least) of religion; State schools in India would cease to be possible when they became denominational. To live in truth and honesty, to eat, drink and sleep sufficiently but not too much, to shun dirt and disease, to obey the laws and to honour those set in authority—these, mixed with some of the sound prudential advice of the Orientals, are the maxims to be found in the text-books. Intellectual instruction is limited to that which is essential and no more; the pupil is taught such reading, writing and figuring as he will require in his daily

life; the poetry, imaginative stories and pieces of pure Hindi literature are confined to what is necessary to lend interest to the Readers and zest to the pupil's studies. The system of physical instruction is such as to inspire discipline and uniformity; it is highly suited to the development of the body, and, being a native growth, is likely to be retained and carried on in later life. As to the special branches of study, they aim at a two-fold effect. Firstly, they are framed with a view to shaking the young cultivator out of the mental lethargy into which he is only too prone to sink, to turning him into an observer, a thinker and an experimentalist. For this reason, the whole mass of manuscript work, the short course of geography and the agricultural and other series in the Readers, connect themselves with the affairs and objects met with in the pupil's daily life. If they serve to electrify his mind into the observation of that which is around him, the building up of a reasonable experience, the formation of general ideas and the drawing of rational conclusions—then, indeed, the best will have been accomplished. But there is a second aim underlying these subjects. This is no less than the highly practical one of saving the cultivator from himself and the enemies by whom he is surrounded. For it is his misfortune to find himself to-day in an environment to which his hereditary habits can, with difficulty, adjust themselves. Generations of oppression and lawlessness have rendered him callous and improvident; the memory still lives of the time "that hover'd betwixt war and wantonness," when the savings of years might lie any moment at the mercy of the Pindari, or the debts of a life-time were only too likely to be cancelled by obliteration of the creditor. Now British rule has established a condition of life in which the caprice of fortune is reduced to a minimum, in which ruin awaits the improvident, and existence, in order to be blessed, must be guided by self-denial, thrift and prudence. The hand of justice has given a great opportunity to the money-lender; while his victim has yet to learn that instability of life and property no longer make the marriage-feast or the pilgrimage or any other immediate form of delectation the best investments for the surplus of a

bounteous year. His economic surroundings, too, have changed. Difficulties of communication no longer retard the export of life's necessities; the glut on the market resulting from a bumper crop no longer makes up for failure of the next rainfall. The commercial agent encourages the cultivation of cotton or linseed in place of cereals, and the middleman reaps the gain. The cultivator can no longer batten in the isolation of his sunny hill-locked plain; he has become an item in the world's commercial system, but has yet to learn the modifications which the distant vibration of steamship, locomotive or cotton mill must work in his simple methods and transactions before he can settle down into a new tranquillity. In short, he is in a transition stage and knows not what to make of it. Under these circumstances a practical education is what he needs. He must be armed against those who, aided and protected by the changed order of things, are making his ignorance and his conservatism their prey. Our rural curriculum, then, aims at the ideal of Herbert Spencer regarding what education should be—an answer to the question, How to live? The text-books contain chapters on sanitation, agriculture, the rights of tenants. Manuscript reading is included, so that the future cultivator may, through his own eyes, comprehend the bond or mortgage-deed he signs. He must become conversant with patwaris' papers, in order that he may not be puzzled by the numerous columns of the khasra and jamabandi, that he may see that entries are correctly made in the right place, and may come to know his own position. Practical instruction in the fields will, it is hoped, cause him to appreciate the defects of his own system, and the improvements which lie within his power. The study of accounts should help him to habits of thrift and to the comprehension of his standing with the money-lender. Above all, the development of his reasoning faculties may teach him to perceive and to live up to the new economic conditions into which he has been plunged.

Improvement, not Europeanisation.

246. While, however, our rural education aims at equipping the pupil to hold his own in an age of slow revolution, it must

not be supposed that it attempts to make of him anything save that for which fate intended him. He may become more wide-awake, more alive to his own interests, more able to cope with those who try to dupe him. But, so far as our efforts are concerned, he will remain an Indian ryot. It has been remarked that the civilisation of a people can be developed only along its original lines of genius. However much this saying may appear to be falsified in the case of Japan, it would be hard to deny it regarding the present condition of the conservative agricultural classes of India. To attempt to Europeanise would be madness—a scratching of the epidermis with a view to producing a metempsychosis. Moreover, there are excellent points in the character of the native husbandman, in his ways of cultivation (rude as they seem to us), and in the institutions of his village community. Our rural schools would develop the merits and supply the defects of his nature; they would show him how to make the best of his environment, not how to change it. Our course of instruction, moral, mental and physical, is based upon indigenous ideas. These (or the best of them) are presented to the pupil in an organised form; and they are inculcated upon an occidental (that is, a rational) system of pedagogy.

Effects of rural education.

247. The aim of our rural education has now been discussed; it remains to consider its actual effects. In 1901 out of a population of nearly twelve millions, 327,486 persons were returned as literate. The standard taken was a somewhat high one.* Most of these had been educated in our primary schools. Two questions arise. What are the abilities of a half-time pupil at the moment when he leaves school? What are his abilities, say, ten or fifteen years later?

Preliminary considerations.

248. The former of these questions would best be answered by way of comparison with some known standard, such as that of an English Board school boy. The answer, however, is complicated by two matters which deserve preliminary consideration. In the first place, the Hindu lad, up to the age of seventeen, is singularly precocious. He is quick at grasping a ques-

* Census of India, 1901, Vol. XIII, page 32.

tion and at thinking out the reply. He is not loutish, like the lower class English boy; but quiet, self-respecting, deferential and well-mannered. He is endowed with much (rather superficial) common sense, *aplomb* and self-possession. In the second place, he is singularly unfortunate in opportunities for what might be termed unconscious education, and hence singularly lacking in width of view. Take the son of an English mechanic. He awakes to consciousness in a cottage, humble indeed, but probably adorned with a few pictures, and certainly garnished with furniture. There are probably a few books—the Bible, Pilgrim's Progress, some works of fiction. His mother (a vital point) is educated; and if they are decent bodies, she or the father will read to him in leisure moments. Then there is church or chapel with all its associations. The school widens these early impressions; nor are the school hours curtailed by the necessity of labour in early boyhood. Every time he steps into the street he encounters things suggestive of a hundred different object-lessons—shop-windows full of curious or foreign produce, vehicles of calibre varying from the traction-engine to the perambulator, factories, workshops and men of different callings. Then take the son of the Indian cultivator. His home boasts neither picture nor library. His mother cannot read; his father, if he has the knowledge, makes little or no use of it. The village temple is white-washed outside, and nearly pitch-dark inside. Relatives sometimes assemble at a marriage or a funeral; but they are all cultivators, too, and present no variety. Once or twice a month comes the excitement of the local bazaar, and once a year the pilgrimage, generally on foot, to some fair by a sacred river. For the rest, sunrise and sunset, and between them the fields of slowly ripening crops. All tend to lull and dull the senses, to narrow the intellect. The only centre of inspiration is the school, with its bright adornments and its ordered life. And, for the five or six years that a boy studies, he spends in school but three hours a day, excluding Sundays, a mass of native holidays, the two vacations of three weeks at sowing and reaping, and frequent unsanctioned absences.

Condition of the pupil on leaving school.

249. The rural scholar passes the Primary Examination and leaves school at any age between ten and fourteen years, or a little later. In handwriting and orthography he is probably, in arithmetical tables and the deciphering of letters and other manuscript certainly, superior to the English (perhaps to any) boy of a similar age. He can read simple narrative correctly, but often with monotony and apparent want of understanding. Nevertheless, he does comprehend and can remember the meaning of lessons which have been once taken and explained in class. If he is given time, he will probably explain an unseen lesson of equal difficulty; but this is not always so; and, if he is hurried, he will understand nothing. He is lamentably ignorant of history and of the conditions of India. If the teacher has taken a little pains, he sings charmingly with zest and feeling; and he understands the difficult subject-matter of the songs. He can express the simplest ideas with great propriety on paper; but his ignorance of grammar prevents much progress. In working out sums he is careful and hardly ever makes a blunder; but he is exceedingly slow; can work only by the precise rule shown him; and knows, of course, far less than his European equivalent. At mental problems he is quick within certain limits; but take him off the beaten track and he collapses. His attainments in geography are utterly inferior. His knowledge of common objects is far narrower, but probably more certain and detailed, than that of the average English boy. His acquaintance with the principles of land record and accounts are a thing apart. Of other knowledge he possesses none.

250. On the whole, this lad of fourteen years strikes us as possessed of a coolness and an acuteness equal to those of an English youth of twenty-two, working upon an experience narrower than that of a child of seven. Hence there is a brilliancy but at the same time an artificial tone about his attainments. He is wanting in breadth of view, in versatility, in solidity. He will explain a piece of poetry more difficult than Chaucer, recount the story of the Ramayan, work a complicated sum in interest, astonish us with his quickness in tables, interpret the

village-registers or balance an account with accuracy. This is fairly safe ground. More than this, he will rattle off a list of the Moghal Emperors or of the British possessions in Africa. Probably, however, he does not know who the Moghals were or when they lived, nor whether Cape Town is a city, a country or a mountain. That which he really knows, he knows with accuracy; but his knowledge is like a slender column, supported on a narrow basis of experience, unbuttressed by information from surrounding sources. Such a column, we much fear, may soon collapse.

Condition in later life.

251. This leads to the second question:—What is the mental condition of the cultivator some ten years after leaving school? Here we must draw a distinct line between the full-timer and the half-timer. Even if the former does not pursue his studies beyond the primary stage, he probably enters a walk of life in which his knowledge will stand him in good stead and will be preserved by use. The half-timer passes from the school-room to the plough; his attainments, as we have just seen, are likely to be of a destructible character; and, it is to be feared, he too often "reels back into the beast." The question, however, is fraught with difficulty, because no statistical answer can be given, and enquiries from natives elicit widely inconsistent replies. One can but recount his own experience and impressions. For a considerable time I was informed by both Europeans and natives that the cultivator and the labourer were unaffected by our primary education, and, a few years after passing the examination, were unable either to read or to write. Despite these discouragements I have continued to make enquiries; and I now feel convinced that the earlier impressions conveyed to me were pessimistic. The ordinary ryot forgets much, but not all. He retains and uses his ability to write letters and to read those that he receives. The majority never, indeed, open a book; but I have found some whom their early education led to borrow or purchase, and seriously to study, the Ramayan. It must be remembered that the present generation of adults was educated under the old curriculum, which (see paragraph 242), being discon-

nected with their experience and studied through the medium of an almost extinct species of Hindi, was only too likely to produce a shallow veneer. The rural curriculum has based the pupil's studies on the objects which surround him. Hence his knowledge has a firmer basis in experience and a better chance of survival through the processes of association. It is too early to judge of the results. There is at least good reason to expect they will be satisfactory. A hopeful sign is the disapproval evinced by most patwaris and some landlords of the teaching of patwaris' papers.

Conclusion.

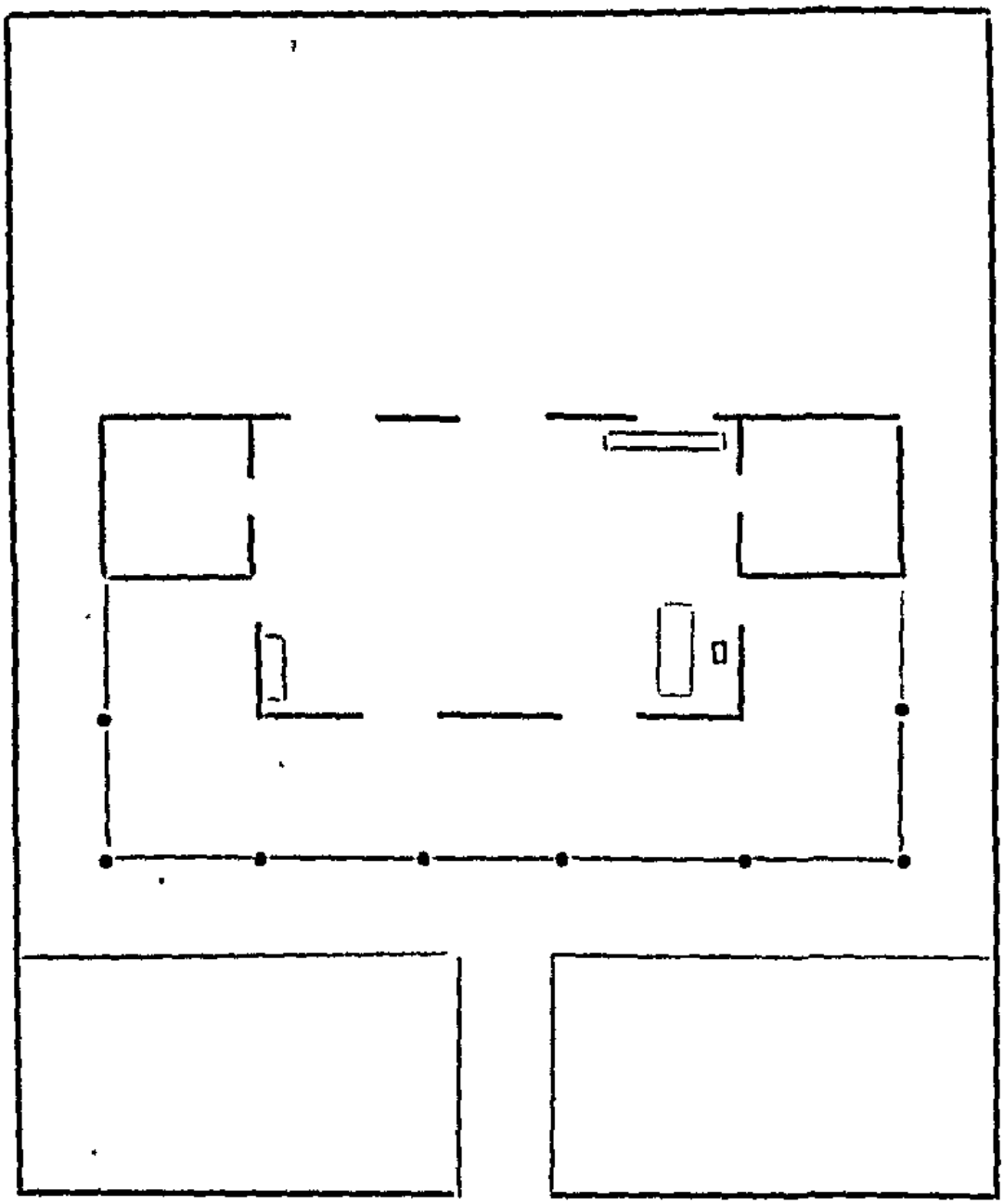
252. The task of delineating rural primary schools in the Central Provinces is now completed. The aim has been to give a picture (whether of factors, or of their results) and no more. Such merits as the system may possess can best be judged of by the reader. It is at least an honest attempt to introduce among a people generally callous, often openly hostile, to our efforts, a glimmering of the useful and the good as possible of realisation in their own lives. Something has been accomplished. The school has taken root as a popular institution in the better villages. The zones of opposition are contracting. Still, it is as yet an up-hill struggle; let us hope it is towards a proper goal.

APPENDICES.

APPENDIX A (8).

PLAN OF RURAL SCHOOL PREMISES.

SCALE OF FEET.



NOTE.—This plan is likewise illustrative (on a small scale) of the kind of map used in commencing geography in class III. To emphasise the similarity, names have been omitted. But the garden, divided by a path in front, the house itself with chair, table, bench and cupboard, and the open space for drill at the back can be easily distinguished,

APPENDIX A (2).

Articles of Furniture required in a Rural School.

Two chairs } For teachers, inspecting officers or visitors.
Two stools }

One bench for the Committee.
One time-piece.
A box for keeping records.
Tat-putties (strips of matting) or rough carpet, for the classes to squat upon.
Two black-boards.
Reading sheets.
Ball-frame.
A cabinet of objects for object-lessons.
Apparatus for teaching agriculture.
A collection of pictures of common animals.
Class books for the use of teachers.
A plan of the school, as shewn in Appendix A(1).
A copy of the Patwari's map of the village-area.
A map of the district.
A map of the Central Provinces } where there are full-timers.
A map of India }
A map of the World or a Globe.
Moral text-sheets, for hanging on the wall.
Drawing cards, if drawing is taught.
A collection of different kinds of soil found in the village-area.
A collection of manuscript letters, petitions, bonds, etc.
Complete copies of the village Khasra and Jamabandi.
Model cash-book and ledger (rokar and khata) with entries.

For the Infants.
- Letters made of seeds or cowries gummed on paper.
- Geometrical forms of the same material.
- Balls of wool of various colours.
- Models of common fruit and vegetables.
- Models or pictures of domestic utensils and agricultural implements.

APPENDIX A (3).

Outfit required by a Pupil in a Rural School.

	R	a.	p.	R	a.	p.
Infant Class—1 bag for reels	0	0	3			
1 sand-board	0	1	0			
				=0	1	3
Class I.—First Reader	0	1	3			
1 slate	0	3	0			
6 slate-pencils	0	0	9			
				=0	5	0
Class II.—Second Reader	0	3	3			
6 slate-pencils	0	0	9			
2 copy-books	0	2	0			
1 ink-stand	0	1	0			
Ink	0	2	0			
6 reed-pens	0	0	0			
				=0	9	9
Class III.—Third Reader	0	3	6			
Mental Arithmetic Book	0	1	9			
1 slate	0	3	0			
6 slate-pencils	0	0	9			
2 copy-books	0	2	0			
Ink	0	2	0			
6 reed-pens	0	0	9			
Country paper for manuscript work	0	3	0			
				=1	0	9
Class IV.—Fourth Reader	0	5	6			
Geography Primer	0	3	6			
Arithmetic Primer	0	10	0			
6 slate-pencils	0	0	9			
2 copy-books	0	2	0			
1 ink-stand	0	1	0			
Ink	0	4	0			
6 reed-pens	0	0	9			
Paper for note-book	0	2	0			
Paper for letter-writing	0	1	0			
Country paper for manuscript work	0	4	0			
				=2	2	6
TOTAL				R4	3	3

Curriculum for Primary Rural Schools (for Boys).

	CLASS I.	CLASS II.	CLASS III.	CLASS IV.
		COMPULSORY SUBJECTS.		
1. Reading	(1) The Alphabet and Reading-sheets (in the District Vernacular) as supplied to Board Schools. *Hindi.*—Departmental 1st Book. *Marathi.*—Departmental Balbodh 1st Book. *Uriya.*—Departmental 1st Book. *Urdu.*—Departmental 1st Book. *Telugu.*—1st Book . . (2) Recitation of 20 lines of easy verse.	(1) *Hindi.*—Departmental 2nd Book. *Marathi.*—Departmental Balbodh 2nd Book and Modi 1st Book. *Uriya.*—Departmental 2nd Book. *Urdu.*—Departmental 2nd Book. *Telugu.*—2nd Book. (2) Recitation and explanation of 40 lines of easy verse.	(1) *Hindi.*—Departmental 3rd Book. *Marathi.*—Departmental Balbodh 3rd Book and Modi 2nd Book. *Uriya.*—Departmental 3rd Book. *Urdu.*—Departmental 3rd Book. *Telugu.*—3rd Book, and 70 lines of Sumatisatacam. (2) Recitation of 60 lines of verse, with explanation of prose order and meaning. (3) Manuscripts in simple current character, such as petitions and letters; and (in Marathi schools) in simple Modi. (4) Reading and comprehension of Patwaris' papers.*	(1) *Hindi.*—Departmental 4th Book. *Marathi.*—Departmental Balbodh 4th Book and Modi 3rd Book. *Uriya.*—Departmental 4th Book. *Urdu.*—Departmental 4th Book. *Telugu.*—Panchatantram, pages 1 to 72; Nitisangraham, first 50 verses. (2) Recitation of 80 lines of verse with full explanation (allusions, &c.). (3) Manuscripts, as in Class III, a further course. *(4) Reading and comprehension of Patwaris' papers, in greater detail.
2. Writing and Spelling.	Large hand on slates, letters and words from the Reading-sheets. Words and sentences copied from the Reader in use. Dictation.	Large hand on paper. Dictation from the Reader in use.	Text or medium size on paper. Dictation from the Reader in use and unseen passages of similar difficulty.	Small hand. Dictation from the Reader in use and unseen passages of similar difficulty. Letter writing.

3. Arithmetic .	(1) Notation and numeration to 1,000; simple addition and subtraction. (Instruction to be by means of the ball-frame or with counters, the scholars thus being taught by sight and touch). (2) *Mental*—Tables to 16 × 10; mental addition and subtraction of concrete numbers, the total not to exceed 15.	(1) *Slate*—Notation and numeration to 10,000. The four simple rules, multiplier and divisor not to exceed two figures. (2) *Mental*—Tables to 40 × 10. Fractional tables ½ × 20. Tables of weights and measures as laid down in the sheet supplied to Board schools.	(1) *Slate*—Simple and compound rules. Reduction. Easy problems. (2) *Mental*—Square tables from 1 to 25. Mental application of the simple and compound rules and of fractional tables to simple problems in connexion with wages and prices. (3) Writing and comprehension of a simple *Ememoria* account.	(1) *Slate*—Simple proportion; interest by sums; easy problems; addition and subtraction of decimals to two places. (2) *Mental*—Tables to 20 × 20; parts of Chapter IV of the Text-Book on *Mental Arithmetic*; and mental application of these rules to simple problems in connexion with wages and prices. (3) The maintenance of accounts by *Rekwahi* and *Khata* (cash and grain) and ability to write out accounts in these forms. *For full-time boys.* (1) *Slate*—L. C. M., G. C. M. and easy vulgar fractions.
4. Geography .	—	—	(1) Map of the school-room drawn to scale; points of compass. (2) The District. (3) Explanation of geographical terms on map or globe.	(1) Outlines of the world as taught orally from a globe with special reference to the British Empire. (2) Causes of day and night; size and shape of the earth. (3) Comprehension of Patwaris' map of the village area. *For full-time boys.* (1) Outlines of India and the Central Provinces. (2) The principal countries and peoples of the world, with special reference to the British Empire.

* There are few rural schools where Patwaris' papers and maps are not available, and where, accordingly, their teaching may, with the Inspector's sanction, be dispensed with.

	CLASS I.	CLASS II.	CLASS III.	CLASS IV
		COMPULSORY SUBJECTS—(contd.)		
5. Agriculture	*Compulsory for half-time boys, and for the majority of full-time boys.*		The Agriculture lessons of the 3rd Reader, explained and illustrated by means of the apparatus supplied.	The Agriculture lessons of the 4th Reader, explained and illustrated by means of the apparatus supplied. The law of landlord and tenant as taught in the 4th Reader.
6. History	*Compulsory only for full-time boys who do not take up Agriculture.*		The History lessons of the 3rd Reader.	The History lessons of the 4th Reader.
7. Drawing	Geometrical forms on ruled slates.	Geometrical forms on ruled slates.	.....	.....
		OPTIONAL SUBJECTS.		
1. History	*Optional for full-time boys who take up Agriculture, and for whom, therefore, History is not compulsory.*		The History lessons of the 3rd Reader.	The History lessons of the 4th Reader.
2. Drawing	.....	.....	Free-hand on paper—curved lines and their combinations. Easy familiar objects from copies.	Free-hand on paper—leaves and flowers. Familiar objects from copies.
3. Grammar	.....	.....	Parts of speech . . .	Inflections of nouns, adjectives, pronouns and verbs. Easy parsing.

NOTE.—(1) Not more than one option subject can be taken up by full-time boys; none by half-time boys.
(2) Drill and Desk Exercise are compulsory in all classes.

APPENDIX A (5).

Curriculum for Infant classes attached to all Primary Schools or Primary Departments of High and Middle Schools.

1. To form with cowries or tamarind seeds, and afterwards to copy in sand—
   (*a*) the letters of the alphabet;
   (*b*) numbers up to 10;
   (*c*) simple geometrical shapes.

2. To recognise—
   (*a*) simple forms, shown by means of models made of wood, &c.;
   (*b*) colours, shown by means of balls of wool, flowers, &c.;
   (*c*) familiar objects, taught from the actual objects or pictures of them;
   (*d*) familiar animals, taught from pictures;
   (*e*) familiar flowers, plants, &c., taught from the actual plants, and in cases where they can be used, from dried specimens.

3. To comprehend and remember simple stories, told by the master or mistress, from such books as the 1st and 2nd Readers, Nitisudha Tarangini, and such as occur to the teacher.

4. To sing nursery rhymes and simple household songs.

5. Native infantile games.

6. Children's easy occupations, such as brick-building, stick-laying, paper-cutting and plaiting, and drawing on ruled slates. Kindergarten gifts may be used where they exist. Otherwise wooden bricks and other simple apparatus can be made locally.

APPENDIX A (6).

Khasra of Mauza Gosalpur, Settlement No. 614, Sihora Tahsil, Jubbulpore District, for 1902-03.

Number of field.	Area.	Soil, if sir or included in a holding.	Description, if not sir or included in a holding.	Name of proprietor.	Tenant with name, father's name, caste, status and rent. If the field is sir enter "sir" only.	Sub-tenant or tenant of sir, name, father's name, caste and rent.	AREA IN CULTIVATION. CROPPED DURING YEAR. Name of crop.	Area.	Area double-cropped.	Uncropped during the year or fallow for 1, 2 or 3 years.	Area out of cultivation or fallow for more than 3 years.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13
	Acres.							Acres.	Acres.	Acres.	Acres.	
1	4·40	Bhatwa, (M.) .	...	Jawahir Singh	Panga, son of Lachman, Mahapatra, resident of Gosalpur, ordinary, R8 (Bilmukta).	Chatru, son of Shivlal, Brahmin, of Gosalpur, R10 (Bilmukta).	Wheat Rice .	4·40 2·10	2·10	...	...	
2	0·39	...	Water	...	...	...	...	...	...	...	...	Nala.
3	3·12	Mund II, Bandhwas, (G.)	...	Jawahir Singh	Panga, son of Lachman, Mahapatra, resident of Gosalpur, ordinary, for rent see No. 1.	Chatru, son of Shivlal, Brahmin, of Gosalpur, for rent see No. 1.	Wheat	2·82	...	0·30 2 years.	...	
4	4·12	Mund I, Bandhwas, (G.)	...	Do. .	Ramdin, son of Gopal, Brahmin, of Khajuri, absolute-occupancy, rent R15 (Bilmukta).	...	Do. .	3·14	...	...	0·98	
5	2·10	Sahra, Saman, (D.)	...	Do. .	Do., see No. 4	...	Rice .	2·10	2·10	...	...	
6	1·09	Sahra, Tikura, (D.)	...	Do. .	Do., do.	...	Wheat Rice .	2·10 1·09	...	...	...	

7	2·03	...	Hill	...	...	...	...	...	...	...	...	
8	0·00	Domata, Bandhwas, (G.)	...	Ram Sewak, son of Ram Niwas, Kaisth, of Gosalpur, malik-makbuza, revenue Rs.	Ram Sewak . .	...	Rice . Masur	0·00 0·00	0·00	...	...	Irrigated from tank, No. 12.
9	1·13	Mund I, Bandhwas, (G.)	...	Do. . .	Do. . .	...	Birra .	1·13	...	...	...	
10	3·09	Mund I, Bandhwas, (G.)	...	Jhalkan, son of Bhairon, Mahapatra, of Gosalpur, Government muafi, revenue value Rs.	Jhalkan, Mahapatra	...	Do. .	3·09	...	...	...	
11	0·00	Domata, Bandhwas, (G.)	...	Do. . .	Do. . .	...	Rice . Linseed	0·00 0·00	0·00	...	...	
12	3·20	...	Water	...	...	...	...	...	...	...	...	A tank.
13	2·00	Mund I, Bandhwas, (G.)	...	Jawahir Singh	Ramdin, son of Pusan, Kurmi, of Gosalpur, occupancy, rent Rs.	...	Wheat	2·00	...	...	...	
14	1·79	Mund II, Bandhwas, (G.)	...	Do. .	Ramdin, son of Pusan, Kurmi, of Gosalpur, ordinary, rent Rs (Dilmukta).	...	Birra .	1·79	...	...	...	
15	2·10	Do. .	...	Do. .	Ramdin, son of Pusan, Kurmi, of Gosalpur, ordinary; for rent see No. 14.	...	Wheat	2·10	...	...	...	
16	2·19	Kawar I, Bandhwas, (G.)	...	Do. .	Chhota, son of Pahari, Darman, of Gosalpur, muafi, village service, Kotwar.	...	Birra .	2·19	...	...	...	
17	1·15	Mund II, (G.)	...	Do. .	Do. .	...	Linseed	0·80	...	0·35 1 year.	...	
18	0·39	Sahra, Jhilan, (D.)	...	Do. .	Debi, son of Manohar Rao, Lodhi, of Gosalpur, ordinary, rent Rs.	...	Rice .	0·39	...	...	...	

Number of field	Area	Soil, if other varieties in a holding.	Description, if sir or included in a holding.	Name of proprietor.	Tenant with name, father's name, caste, status and rent. If the field is sir enter "sir" only.	Sub-tenant or tenant of sir, name, father's name, caste and rent.	AREA IN CULTIVATION. CROPPED DURING YEAR. Name of crop.	Area.	Area double-cropped.	Uncropped during the year or fallow for 1, 2 or 3 years.	Area of cultivation or fallow for more than 3 years.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13
19	1·21	Mand II, Bandhwas, (G.)	...	Jawahir Singh	Sir . . .	...	Wheat	Acres. 1·21	Acres. ...	Acres. ...	Acres. ...	Contains three mango trees, the property of Jawahir Singh.
20	0·65	Mand I, Bandhwas, (G.)	...	Do. .	Do. . . .	...	...	...	...	0·65 1 year.	...	
21	1·17	Kawar II, Bandhwas, (G.)	...	Do.	Khudkast, 2 years.	...	Birra .	1·17	...	...	...	
22	1·13	Mand I, Bandhwas, (G.)	...	Do. .	Do., 4 years.	...	Teora	1·13	...	...	...	
23	2·35	...	Houses	...	...	...	...	...	...	...	...	
24	3·81	Mand I, Bandhwas, (G.)	...	Do. .	Mihilal, son of Budhu, Lodhi, of Gosalpur, ordinary, rent R39 (Bilmukta).	...	Birra .	3·81	...	...	...	
25	4·10	Do. .	...	Do. .	Do., see No. 24.	...	Gram and Linseed.	4·10	...	...	...	
26	0·15	...	Road .	...	...	...	...	...	...	...	...	
27	3·75	Patorna, (M.) .	...	Do. .	Chhota, son of Pahari, Darman, of Gosalpur, ordinary, rent R1.	...	Kodon	3·75	...	...	...	
28	2·10	Sahra, Jhilan, (D.)	...	Do. .	Parman, son of Dhiraj, Teli, of Gosalpur, ordinary, rent R10.	...	Rice . Linseed.	2·10 2·10	2·10	...	...	

Jamabandi or Rent-Roll of Mauza Gosalpur, Settlement No. 614, Sikora Tahsil, Jullundur District, for the year 1902-03.

Serial No. of holding.	Name of tenant, father's name and caste.	Name of proprietor.	Khasra No. of each field in holding.	Area.	Demand for the agricultural year ending May 31st.			Collections during the revenue year ending 30th September on account of—				Sub-tenant or tenant of sir land, if any.		Remarks.
					Cash.	Amount and value of grain.	Total.	Current year.	Third year back.	Second year back.	First year back.	Name.	Rent.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Sir	Jawahir Singh, son of Ajab Sigh, Kalsia, of Gosalpur, Malguzar of 16 annas.	12 29	121 0 3	—	—	—	—	—	—	—	—	—	
			2	1 16	—	—	—	—	—	—	—		—	
2	Khudkast.	Do.	21 22	1 17 1 13	—	—	—	—	—	—	—	—	—	
			2	2 10	—	—	—	—	—	—	—		—	
	Total Sir and Khudkast .		4	4 16	—	—	—	—	—	—	—		—	

Serial No. of holdings.	Name of tenant, father's name and caste.	Name of proprietor.	Khasra No. of each field in holding.	Area.	Demand for the agricultural year ending May 31st.			Collections during the revenue year ending 30th September on account of—				Sub-tenant or tenant of sir land, if any.		Remarks.
					Cash.	Amount and value of grain.	Total.	Current year.	Third year back.	Second year back.	First year back.	Name.	Rent.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Malik-makbuza, Ordinary.													
3	.....	Ramsewak, son of Ramniwas, Kaisth, of Gosalpur, Malik-Makbuza, ordinary, revenue R8 (Bilmukta), paid R8, balance nil.	8 9	0·90 1·18	...	...	...	...	...	...	...	..	...	Cesses, R0-8-0.
			2	2·08	...	...	...	...	...	...	...	...	...	
	Malik-makbuza, Government Muafi.													
4	.....	Jhalkan, son of Bhairon, Mahapatra, of Gosalpur, revenue R9 (Bil-Mukta.)	10 11	3·09 0·90	...	...	...	...	...	...	...	...	...	Cesses, R0-11-0.
			2	3·99	..	...	...	...	...	...	...		...	
	Tenants, Absolute-occupancy.													
5	Ramdin, son of Gopal, Brahmin,	Jawahir Singh	4 5	4·12 2·10	15	...	15	15	...	...	2	...	...	Additional rates,

	of Khajuri, absolute occupancy.		6	109									
			3	731	13	...	13	13	...	...	2		...
6	*Tenants, Occupancy.*												
7	Bandin, son of Pusan, Kurmi, of Gosalpur, occupancy.	Jawahir Singh	13	240	8	...	8	8	2	...	...	...	...
	Ordinary	Do. . .	14 13	173 210	9	...	9	9	...	4	...	...	...
			2	383	9	...	9	9	...	4	...		...
	Total of Bandin, Kurmi .		3	673	17	...	17	17	2	4	...		...
	Tenants, Ordinary.												
8	Chhota, son of Pahari, Darman, of Gosalpur, ordinary.	Jawahir Singh	27	373	1	...	1	1	...	...	...	...	...
9	Debi, son of Manohar, Lodhi, of Gosalpur, ordinary.	Do. . .	18	033	2	...	2	2	...	...	...	...	...
10	Panga, son of Lachman, Mahapatra, of Gosalpur, ordinary.	Do. . .	1 3	440 312	8	...	8	8	...	...	...	Chatru, son of Shivlal,	10
			2	752	8	...	8	8	...	...	...		10
11	Parmu, son of Dhiraj, Teli, of Gosalpur, ordinary.	Do. . .	23	210	10	...	10	10	...	...	...	...	...
12	Mihilal, son of Radhu, Lodhi, of Gosalpur, ordinary.	Do. . .	24 25	381 410	20	...	20	20	...	...	...	...	...
			2	791	20	...	20	20	...	...	...		...

Serial No. of holdings.	Name of tenant, father's name and caste.	Name of proprietor.	Khasra No. of each field in holding.	Area.	Demand for the agricultural year ending May 31st.			Collections during the revenue year ending 30th September on account of—				Sub-tenant or tenant of sir land, if any.		Remarks.
					Cash.	Amount and value of grain.	Total.	Current year.	Third year back.	Second year back.	First year back.	Name.	Rent.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Tenants, Muafi Service.													
13	Chhota, son of Pahari, Darman, of Gosalpur, Muafi service, Kotwar.	Jawahir Singh	16 17	2·19 1·15	...	...	...	...	...	...	...	...	...	
			2	3·34	...	...	...	...	...	...	...		...	
	Total of land in holding .		23	49·34	92	...	92	92	3	4	2		10	
	Land which is not included in holding.		...	...	...	...	...	...	...	...	...			
	Hill . . .	.....	7	2·08	...	...	...		...	...	...	...	...	
	Water . . .	.....	2 12	0·39 3·20	...	...	...	...	...	...	...	...	...	
			2	3·59	...	...	...	...	...	...	...		...	
	Road . . .	.....	26	3·15	...		...	...	...	...	...	...	...	
	Buildings . .	.....	23	2·95	...	...	...	...	...	...	...	...	...	
	Total of land which is not included in holding.		5	11·77	...	..	...	...	...	...	...		...	
	Total area of the village .		23	61·11	92	...	92	92	3	4	2		10	

APPENDIX A (6).

Shri Kachchi Rokar—Daily Cash Book.

Sambat 1959, Friday, the 7th of the dark half of Chait, or 20th March 1903 (English reckoning).

Income.				*Expenditure.*			
R	*a.*	*p.*		*R*	*a.*	*p.*	
15	8	6	Shri pote baki (balance).	7	8	0	To Premchand, Bania, of Bamhni, interest on loan of R500, for one month at 1½ per cent. per month, R7-8-0.
80	0	0	From sale of two bullocks to Harbhajan, Lodhi, of Piparpani.	88	0	0	Shri pote baki (balance).
95	8	6		95	8	6	

Sambat 1959, Saturday, the 8th of the dark half of Chait, or 21st March 1903.

R	*a.*	*p.*		*R*	*a.*	*p.*	
88	0	6	Shri pote baki (balance).	0	3	0	To house expenses.
65	0	0	From sale of 4 manis of wheat, at R16-4-0 per mani, to Tejsi Patramal, of Sandla.		0	2	0 Pepper from market.
					0	1	9 Vegetables from market.
					0	3	0
				152	12	9	Shri pote baki (balance).
153	0	6		153	0	6	

Sambat 1959, Sunday, the 9th of the dark half of Chait, or 22nd March 1903.

R	*a.*	*p.*		*R*	*a.*	*p.*	
152	12	9	Shri pote baki (balance).	100	0	0	To Premchand, Bania, of Bamhni, in repayment of part of debt.
					32	8	0 Two manis of wheat at R16-4-0 the mani.
					67	8	0 Cash.
					100	0	0
				0	8	0	To house expenses.
					0	8	0 Ghi.
					100	8	0
				52	4	9	Shri pote baki (balance).
152	12	9		152	12	9	

Sambat 1959, Monday, the 10th of the dark half of Chait, or 23rd March 1903.

₹	a.	p.		₹	a.	p.	
52	4	9	Shri pote baki (balance).	4	8	0	To Tejsi Patramal of Sandia.
10	0	0	From repayment of seed lent to Harbhajan, Lodhi, of Piparpani, ₹10 cash.		2	0	0 for hire of carts.
					2	8	0 for use of oil-press.
					4	8	0
				57	12	9	Shri pote baki (balance).
62	4	9		62	4	9	

Sambat 1959, Tuesday, the 11th of the dark half of Chait, or 24th March 1903.

₹	a.	p.		₹	a.	p.	
57	12	9	Shri pote baki (balance).	10	0	0	To Harbhajan, Lodhi, of Piparpani as loan.
					10	0	0
				47	12	9	Shri pote baki.
57	12	9		57	12	9	

APPENDIX A (9).

Shri Pakki Rokar—(*Consolidated Cash Book*).

From the 7th of the dark half of Chait, Sambat 1959, to the 11th of the dark half of Chait, Sambat 1959, or from the 20th March 1903 to the 24th March 1903.

CONSOLIDATED CURRENT ACCOUNT.

Income.				*Expenditure.*			
R	*a.*	*p.*		*R*	*a.*	*p.*	
15	8	6	Last balance.	107	8	0	To Premchand, Bania, of Pambni.
90	0	0	From Harbhajan, Lodhi, of Piparpani.				R7-8-0. Rokar page 4, 7th of dark half of Chait.
			R80-0-0. Rokar page 4, 7th of dark half of Chait.				R100-0-0. Rokar page 4, 9th of dark half of Chait.
			R10-0-0. Rokar page 5, 10th of dark half of Chait.	0	11	9	House expenses.
65	0	0	From Tejsi Patramal, of Sendra.				R0-3-9. Rokar page 4, 8th of dark half of Chait.
			R65-0-0. Rokar page 4, 8th of dark half of Chait.				R0-8-0. Rokar page 4, 9th of dark half of Chait.
				4	8	0	To Tejsi Patramal.
							R4-8-0. Rokar page 5, 10th of dark half of Chait.
				10	0	0	To Harbhajan, Lodhi, of Piparpan.
							R10-0-0. Rokar page 5, 11th of dark half of Chait.
				47	12	9	Balance forward.
170	8	6		170	8	6	

APPENDIX A (10).

Shri Khata Bahi—(*Ledger*).

Shri Khata of Premchand, Bania, of Bamhni.

₹		₹	a.	p.	
300	Rokar page 8.	107	8	0	Rokar page 3.
		18	0	0	Rokar page 6.
		400	0	0	Rokar page 6.

Shri Khata of Harbhajan, Lodhi, of Piparpani.

₹		₹	a.	p.	
90	Rokar page 3.	10	0	0	Rokar page 3.
27	Rokar page 7.	30	0	0	Rokar page 6.

Shri Khata of Tejsi Patramal, of Sandia.

₹		₹	a.	p.	
65	Rokar page 3.	4	8	0	Rokar page 3.
		24	6	0	Rokar page 5.

Shri Khata of House-expenses.

₹	a.	p.	
2	8	3	Rokar page 1.
0	11	9	Rokar page 3.
1	2	0	Rokar page 4.

Specimen Time-Table for School of one Master and one Monitor.

	7—8 A.M.	8—8-45 A.M.	8-45—9-30 A.M.	9-30—10 A.M.	10—10-15 A.M.	3—4 P.M.	4—5 P.M.
Head Master.	CLASS IV.—Arithmetic (Monday, Tuesday, Wednesday and Thursday), ¾ hour. Accounts (Friday) ¾ hour. Mental arithmetic (daily), ¼ hour.	CLASS IV.—Reading (Monday, Wednesday and Thursday). Manuscript subjects (Tuesday and Friday).	INFANT CLASS.—Object lessons and stories (Monday, Wednesday and Friday). CLASS IV.—Letter writing (Tuesday and Thursday), ½ hour, and Dictation ¼ hour.	CLASS IV.—Geography and Agriculture (Monday Wednesday and Friday). Dictation, given by a pupil (Tuesday and Thursday).	Drill and Deshi Kasrat.	FULL-TIMERS, CLASS IV.—Arithmetic (Monday and Thursday). Geography (Wednesday). Grammar (Tuesday and Friday).	FULL-TIMERS, CLASS IV.—Agriculture (Monday, Wednesday and Friday). History (Tuesday and Thursday).
Head Master.	CLASS III.—Reading, ¾ hour. Mental arithmetic (daily), ¼ hour.	CLASS III.—Arithmetic (Monday, Wednesday and Thursday). Manuscript subjects (Tuesday and Friday).	CLASS III.—Dictation (Monday, Wednesday and Friday). Accounts (Tuesday and Thursday).	CLASS III.—Geography and Agriculture (Monday, Wednesday and Friday). INFANT CLASS.—(Tuesday and Thursday).	Drill and Deshi Kasrat.	FULL-TIMERS, CLASS III.—Arithmetic (Monday and Thursday). Geography (Wednesday). Grammar (Tuesday and Friday).	FULL-TIMERS, CLASS III.—Agriculture (Monday, Wednesday and Friday). History (Tuesday and Thursday).
Monitor.	CLASS II.—Arithmetic, ½ hour. Kindergarten drawing, ½ hour.	CLASS II.—Reading, ½ hour. Mental arithmetic, ½ hour.	CLASS IV AND CLASS II.—Copy-writing (Monday, Wednesday and Friday). CLASS II.—Tables (Tuesday and Thursday).	CLASS III.—Copy-writing (Tuesday and Thursday). CLASS II.—Dictation (Tuesday and Thursday), and copying out of lessons (Monday, Wednesday and Friday).	and Games for Infants.	On Saturdays, Classes III and IV do written work in the three R's while the master takes Class I, II, and the Infants, and goes thoroughly through the past week's work of the Monitor. On every third Saturday an examination is held.	

Continued on next page.

	7—8 A.M.	8—8-45 A.M.	8-45—9-30 A.M.	9-30—10 A.M.	10—10-15 A.M.	3—4 P.M.	4—5 P.M.
Monitor.	CLASS I, 2ND SECTION.—Reading, ¾ hour. Kindergarten drawing, ¼ hour. CLASS I, 1ST SECTION.—Copying letters, writing out tables, ¾ hour. Kindergarten drawing, ¼ hour. INFANT CLASS—Letter-making.	CLASS I, 2ND SECTION.—Arithmetic 1ST SECTION AND INFANT CLASS.—Tables.	CLASS I, 1ST SECTION.—Reading (Monday, Wednesday and Friday). Notation (Tuesday and Thursday). CLASS I, 2ND SECTION.—Copying out of lessons.	CLASS I, 2ND SECTION.—Dictation (Monday, Wednesday and Friday). Tables (Tuesday and Thursday). CLASS I, 1ST SECTION.—Notation. INFANT CLASS.—Notation (Monday, Wednesday and Friday).	Drill and Deshi Kasrat,		

APPENDIX A (12).

Proportionment of hours among subjects according to Time-Table in Appendix A (11).

Subject.		Class I.	Class II.	Class III.	Class IV.
Reading	Text	4½	3½	4½	3½
	Manuscripts	...	...	1½ = 6½	1½ = 4½
Writing	Dictation	6½	3½	2½	1½
	Copies	...	2½ = 5½	2 = 4½	3½ = 5½
	Letters	...	...	...	1
Arithmetic	Slate	4½	4½	3½	4
	Mental	1 = 5½	2½ = 7½	1½ = 6	1½ = 6
	Accounts	...	...	1½	½
Geography		...	...	1½	1½
Kindergarten Drawing		1½	1½	...	...
Games, Drill and Deshi Kasrat		1½	1½	1½	1½
	Total	19½	19½	19½	19½
Extra hours for full-timers.					
Arithmetic		...	...	2	2
Geography		...	...	1	1
Agriculture		...	...	3	3
History		...	...	2	2
Grammar		...	...	2	2
	Total	...	...	10	10

Monitor.	7—8 A.M.	8—8-45 A.M.	8-45—9-30 A.M.	9-30—10 A.M.	10—10-15 A.M.	3—4 P.M.	4—5 P.M.
	Class I, 2nd Section.—Reading, ¼ hour. Kindergarten drawing, ¼ hour. Class I, 1st Section.—Copying writing letters, writing out tables, ¼ hour. Kindergarten drawing, ¼ hour. Infant Class—Letter-making.	Class I, 2nd Section.—Arithmetic 1st Section and Infant Class.—Tables.	Class I, 1st Section.—Reading (Monday, Wednesday and Friday). Notation (Tuesday and Thursday). Class I, 2nd Section.—Copying out of lessons.	Class I, 2nd Section.—Dictation (Monday, Wednesday and Friday). Tables (Tuesday and Thursday). Class I, 1st Section.—Notation. Infant Class.—Notation (Monday, Wednesday and Friday).	Drill and Deshi Kasrat.		

APPENDIX A (12).

Proportionment of hours among subjects according to Time-Table in Appendix A (11).

Subject.		Class I	Class II.	Class III.	Class IV.
Reading	Text	4½	3½	4½	3½
	Manuscripts	...	...	1½ = 6½	1½ = 4½
Writing	Dictation	6½	3½	2½	1½
	Copies	...	2½ = 5½	2 = 4½	3½ = 5½
	Letters	...	...	...	1
Arithmetic	Slate	4½	4½	3½	4
	Mental	1 = 5½	2½ = 7½	1½ = 6	1½ = 6
	Accounts	...	...	1½	½
Geography		...	...	1½	1½
Kindergarten Drawing		1½	1½	...	...
Games, Drill and Deshi Kasrat		1½	1½	1½	1½
	Total	19½	19½	19½	19½
Extra hours for full-timers.					
Arithmetic		...	...	2	2
Geography		...	...	1	1
Agriculture		...	...	3	3
History		...	...	2	2
Grammar		...	...	2	2
	Total	...	...	10	10

APPENDIX A (13).

Specimen Time-Table for School of one Master and one Monitor, improved.

	7—8 A.M.	8—9 A.M.	9—10 A.M.	10—10½ A.M.
HEAD MASTER.	CLASSES III & IV.—Arithmetic (Monday, Tuesday, Wednesday and Friday), ¾ hour. Mental Arithmetic (Monday, Wednesday and Friday), ¼ hour. Geography (Thursday), ¾ hour. Dictation (Tuesday and Thursday), ½ hour. CLASS II.—Reading (Monday, Wednesday and Friday), ¾ hour. Kindergarten Drawing (Monday, Wednesday and Friday), ½ hour.	CLASSES III & IV.—Reading of text and manuscripts.	CLASSES III & IV.—Geography and Agriculture. (Monday, Wednesday and Friday), each for ½ hour. Accounts. (Monday, Wednesday and Friday), each for ½ hour. Copies. (Tuesday and Thursday) each for ½ hour. Letters. (Tuesday and Thursday) each for ½ hour. CLASS I.—Reading (Tuesday and Thursday), ¾ hour. Kindergarten Drawing (Tuesday and Thursday), ½ hour.	DRILL AND DESHI KASRAT.
MONITOR.	CLASS II.—Reading (Tuesday and Thursday). CLASS I.—Reading (Monday, Wednesday and Friday). Copying lessons (Tuesday and Thursday).	CLASSES I & II.—Arithmetic, ¾ hour. Mental Arithmetic, ¼ hour. INFANT CLASS.	CLASS II.—Dictation and copying lessons (Monday, Wednesday and Friday), each for ½ hour. Copies (Tuesday and Thursday). CLASS I.—Copying lessons and Dictation (Monday, Wednesday and Friday), each ½ hour. INFANT CLASS.	GAMES AND DESHI KASRAT.

In the hot months the quarter of an hour for exercise precedes, instead of following, school work.

Full-timers in classes III and IV, if there are any, come again from 3 to 5 P.M., and work, together at the following subjects:—

3—4 Arithmetic (Monday and Thursday).
Geography (Wednesday).
Grammar (Tuesday and Friday).
4—5 Agriculture (Monday, Wednesday and Friday).
History (Tuesday and Thursday).

On Saturday, the three hours are divided as follows:—Classes III and IV do written work under the eye of the monitor, viz., Arithmetic, 1 hour; writing of Patwaris' papers, 1 hour; a paper of questions turning on the Reader, intended to induce the boys to express their thoughts on paper, ½ hour; and dictation, given by the monitor, ½ hour. Classes I, II and Infant class are taken by the head master in reading, writing and arithmetic, 1 hour to each subject.

APPENDIX A (14).

Proportionment of hours among subjects according to Time-Table in Appendix A (13).

Subject.	Class I.	Class II.	Class III.	Class IV.
Reading—(a) Text	5½	5½	5	5
(b) Manuscript	...	...		
Writing—(a) Dictation	1½	1½	½	½
(b) Copies and lesson-copying	4½ = 6	4½ = 6	2 = 4½	2 = 4½
(c) Letters and question paper	...	...	1½	1½
Arithmetic—Slate	4½	4½	4	4
Mental	1½ = 6	1½ = 6	½ = 6½	½ = 6½
Accounts	...	...	1½	1½
Geography and Agriculture	...	...	2½	2½
Kindergarten Drawing	½	½	...	...
Drill and Deshi Kasrat	1½	1½	1½	1½
Total	19½	19½	19½	19½

Full-timers have ten extra hours during the week, divided as follows:—

	Hours.
Extra arithmetic	2
Geography	1
Agriculture	3
History	2
Grammar	2
Total	10

But as only two optional subjects could be taken for the old Upper Primary Examination, and only one for the present Primary Examination, and as the inclusion of grammar as compulsory is sanctioned in certain schools and not in others, this division is capable of variation.

Infants attend school from 8 to 10-15 A.M., on working days—a total of 13½ hours weekly. No division of time for subjects can be specified in their case.

APPENDIX A (15).

Subjects for the Primary Examination in Rural Boys' Schools.

A.—Compulsory Subjects.

		Maximum marks.
Group I	Reading a passage from the Reader in use in a Vernacular 4th class.	40
	Explanation of the same	20
	Recitation of verses	20
	Explanation of verses	20
	Reading of manuscript	20
	Either reading and comprehension of Patwaris' papers, 30 marks, *or* Grammar (*where grammar is taught in lieu of Patwaris' papers*) 30 marks.	30
	Total	150
Group II	Dictation — Handwriting	40
	Dictation — Spelling	60
	Total	100
Group III	Slate Arithmetic	50
	Mental do.	25
	Writing and comprehension of Mahajani accounts	25
	Total	100
Group IV (*a*). For half-time boys.	Geography — Answer paper	25
	Geography — *Viva-voce* answers before the map.	25
	Agriculture	50
	Total	100
Group IV (*b*). For full-time boys.	Geography — Answer paper	50
	Geography — *Viva-voce* answers before the map.	50
	And *either* Agriculture. (*For full-time boys except in schools where it is not taught*) 50 marks. *Or* History. (*For full-time boys only who do not take up agriculture*) 50 marks.	50
	Total	150

B.—Optional Subjects.

Drawing	50
Grammar. (*In those schools only where Patwaris' papers are taught*) .	50
History. (*Only for full-time boys who have taken up agriculture among the compulsory subjects.*)	50

Note.—In rural schools (*a*) half-timers take up Groups I (*generally* including Patwaris' papers), II, III and IV (*a*). *They can take up no optional subject.* (*b*) Full-timers take up Groups I (*generally* including Patwaris' papers), II, III and IV (*b*), (*generally* including agriculture). *They may also take up not more than one optional subject.*

APPENDIX A (16).

Curriculum of Physical Instruction in Vernacular Boys' Schools.

Subject.	Vernacular Class I.	Vernacular Class II.	Vernacular Class III.	Vernacular Class IV.	Vernacular Class V.	Vernacular Class VI.
					Middle Classes.	
Drill . .	*Infant Class, 1st and 2nd Sections.* Positions and turnings.	Positions and turnings.	(1) Revision. (2) Extension motions.	As in Class III.	(1) Revision. (2) Balance and combined motions.	As in Class V.
Deshi Kasrat	*Infant Class.* Native infantile games. *1st and 2nd Sections.* *Nihurs, Baithaks, Sada Dand, Sinh Baithak Dand* and *Hanuman Dand.*	As in 1st and 2nd Sections of Class I.	All the exercises given in the Manual of Deshi Kasrat except the *Hindola* and *Ekhatthi Dands*, the *Chals* and the *Kulants*.	All the exercises given in the Manual of Deshi Kasrat except the *Bichchhu Chal* and the *Kulants* which should be attempted only by a few selected boys.	As in Class IV with greater proficiency.	As in Class V with greater proficiency.

APPENDIX A (17).

Synopsis of the Deshi Kasrat ka Anukram.

Lesson I.—Directions for falling in and formation in proper position. That usually adopted is based on forming from line into column of sections (each section consisting of 4, 5 or more boys according to the width of the play-ground) and then extending both back and front and laterally.

Lesson II.—Turnings, right, left, about and half turns, done as in the old Army Drill Book.

Lesson III.—Nihurs or bendings of the body in different directions, with the limbs in different positions—

1. Dahatthi nihur (with both arms).
2. Ekhatthi nihur (with one arm).
3. Hath par patar mukh pher nihur (turning right round with arms and legs extended).

Lesson IV.—Baithaks, or various ways of sitting down (*i.e.*, squatting in the native fashion).

1. Sadi (simple) baithak.
2. Kud (jumping) baithak.
3. Chakkar kud (turning with a jump) baithak.
4. Mukh pher kud (turning right round with a jump) baithak.
5. Age pichchhe pair kud (jumping with each leg alternately in front and behind) baithak.
6. Ek par patar (with one leg extended sideways) baithak.
7. Ang maror (body twisting) baithak.
8. Ghutna mor (knee bending) baithak.

Lesson V.—Dands, or throwing the body parallel (or nearly so), face downwards, to the ground, supporting it and then raising it in various ways by the arms and legs.

1. Sada (simple) dand.
2. Kud baithak (sitting with a jump) dand.
3. Jhanda (flag) dand.
4. Sinh baithak (sitting like a lion) dand.
5. Mukh pher sinh baithak (sitting like a lion and turning right round) dand.
6. Hanuman (monkey) dand.
7. Chakkar (wheel) dand.
8. Ek pairi (supporting on one foot and both hands) dand.
9. Karwat (lying sideways on each side alternately) dand.
10. Ekangi (one-sided) dand.
11. Hindola (see-saw) dand.
12. Ekhatthi (supporting on one hand and both feet) dand.
13. Dubera (double) dand.
14. Garurasan (sitting like a vulture) dand.
15. Sharir taul (balancing the body on both hands alone) dand.

Lesson VI.—Daurs, or ways of running—

1. Tane pav (with stiff legs) daur.
2. Kulachhu (touching the buttocks) daur.
3. Kud baithak (sitting with a jump) daur.

Lesson VII.—Chals, or ways of walking—

1. Maggar chal (crocodile-walk).
2. Mendak chal (frog-walk).
3. Bichchhu chal (scorpion-walk).

Lesson VIII.—Kulants, or acrobatic feats of twisting the body between the limbs First, second and third kulants.

APPENDIX A (18).

Description of typical Nihuk, Baithak and Dand.

Dubaithi Nihuk.

One.—Extend the feet a hand's length from each other. Bring up the hands, at even distance from the shoulders, in a semi-circle in front, and hold them at full length above the head like flags.

Two.—Bring down the hands, fists clenched, with a jerk, so low that the fists press against the breasts and the elbows remain jutting out (at both sides) from the back.

Three.—Lunge with both hands as though at an enemy lying on the ground to the right of the right foot, with left knee stiff and right knee somewhat bent.

Four.—Raise the body. Let the feet remain apart, the arms fully extended, and raise the hands with a jerk above the head like flags.

Five.—Stand as at the command "Two" of this exercise.

Six.—Lunge as at an enemy on the left, just as previously on the right (and so on).

Kud Baithak.

One.—Bring the hands behind with clenched fists, and place the feet a hand's length apart.

Two.—Bring the hands, with clenched fists, forward with a strong jerk and at the same time jump forward one span and squat down, the thighs a little above the calves. As you sit, stretch out both arms to full length between the knees; join the thumbs (and hold the hands) just as if you were illustrating a foot's length. Heels together but toes apart.

Three.—Rise and jump back a span. At the moment of jumping extend the feet the distance of a hand's length apart and first raise both arms extended to full length above the head. Then let them fall with a jerk. Throw the elbows well back and press the fists on the breasts (and so on).

Hanuman Dand.

One.—Extend the left leg (out behind), place the right leg in such a position between the two arms that the thigh is above the calf and the right knee between both arms, both hands on the ground, chest fully extended (forwards) and eyes to the front.

Two.—Do the dand (that is, bend the elbows so that chest and chin come almost to the ground), at the same moment throwing the right leg straight out (behind) and bringing the left leg into the position occupied by the right in position "one" (and so on).

The difficulty of this dand consists in lowering the chest to the ground at the very moment when both feet are in the air exchanging position.

APPENDIX B (1).

Curriculum of Class VI of a Vernacular School, adapted as the general preparation for students under training.

1. *Reading*—(1) *Hindi.*—Departmental 5th Book, Part II, and Ramayan, Aranya Kand or Ayodhya Kand.
Marathi.—Departmental 5th Book, Part II.
Uriya.—Raghuvansha and the remainder of Ayodhya Kand Ramayan by Fakir Mohan Senapati.
Urdu.—Departmental 5th Book, Part II.
Telugu.—Nitichandrika, 1st half; Nalacharitram, 1st half.
(2) Recitation of 140 lines of verse with full explanation (allusions, etc.)
(3) Manuscript as in Class IV.
(4) Patwaris' papers as in Class IV, with greater detail.

2. *Writing and Spelling.*—Dictation from the Reader in use or book of similar difficulty.
The writing of a short letter descriptive of some place known to the pupil or of some event within his experience.
Books of school exercises to be exhibited, each page to be dated and signed by the master.

3. *Mathematics*—I. *Arithmetic*—
(1) *Slate.*—The whole (excluding stocks, exchange and cube root).
(2) *Mental.*—A more advanced course in gurus.
(3) A more advanced course of Mahajani accounts.
II. *Euclid.*—Book I, 26 Propositions.
III. *Algebra.*—First four rules, Factors, L. C. M., G. C. M., easy fractions and easy equations.

4. *Geography.*—(1) Revision of course in Class V, *i.e.*, India, Asia, latitude and longitude, etc., and maps of Central Provinces and India, to be drawn.
(2) Elementary Physical Geography—winds, rain, climate, storms; phases of the moon; the solar system. Physical Geography lessons in the Vernacular 5th Book. The Patwari's map.

5. *Elementary Science.*—(1) Revision of the portion studied in Class V, *i.e.*, definitions, chief forces of nature, gravity, the three states of matter, properties of solids, liquids, and gases, and moving bodies.
(2) Vibrating bodies; heated bodies; electrified bodies.

6. *Agriculture.*—(1) Complete revision, *i.e.*, all the lessons on the subject,—commencing with the 3rd Reader.
(2) Agricultural lessons of the 5th Reader, Part II, explained and illustrated.

7. *Grammar.*—All, including prosody, *Sandhi* and *Samas*; analysis.
8. *History.*—Complete revision of the lessons in the 3rd, 4th and 5th (Part I) Readers; and the lessons of the 5th Reader, Part II. These deal with Indian Polity, the British Empire and general subjects.
9. *Drawing.*—Free-hand and Model Drawing; linear perspective; Geometric drawing as specified in detail.

APPENDIX B (2).

Time-Table of the Primary Grade Classes, Training Institution.

Clas .	10-30—11-30.	11-30—12-30.	12-30—1-30.	1-30—2.	2—3.	3—4.	4—4-30.
Senior Section A .	Arithmetic and Algebra. [2nd Assistant Master.]	School Management (3 hours); Model lessons (2 hours). [Assistant Superintendent.]	Geometry (4 hours); Composition (1 hour). [1st Assistant Master.]	INTERVAL.	Language and Grammar. [Assistant Superintendent.]	Drawing (3 hours). [Drawing Master.] Geography (2 hours). [Assistant Superintendent.]	History (1½ hours); Physical Science (1 hour). [Assistant Superintendent.]
Senior Section B .	Language and Grammar. [Assistant Superintendent.]	Drawing (3 hours); Model lessons (2 hours) (with A Section).	School Management (3 hours); Geography (2 hours). [Assistant Superintendent.]		Arithmetic and Algebra. [2nd Assistant Master.]	Geometry (4 hours); Composition (1 hour). [1st Assistant Master.]	History (1½ hours); Physical Science (1 hour). [1st Assistant Master.]
Junior Section A.	Language . . [3rd Assistant Master.]	Arithmetic (3 hours); History (2 hours). [2nd Assistant Master.]	Drawing (3 hours); Geography (2 hours) [2nd Assistant Master.]		School Management (3 hours); Model lessons (2 hours). [1st Assistant Master.]	Grammar and Composition (2 hours); Physical Science (2 hours); Mental and Mercantile Arithmetic (1 hour). [2nd Assistant Master.]	Drill and Gymnastics.
Junior Section B.	School Management (3 hours); Model lessons (2 hours). [1st Assistant Master].	Geography (2 hours); History (2 hours). [3rd Assistant Master.] Drawing (1 hour).	Drawing (2 hours); Arithmetic (3 hours). [3rd Assistant Master.]		Language. [3rd Assistant Master.]	Grammar and Composition (2 hours); Physical Science (2 hours); Mental and Mercantile Arithmetic (1 hour). [3rd Assistant Master.]	Drill and Gymnastics.

The drill and gymnastics of the senior class are taken in the morning. Making of globes on Saturdays.

APPENDIX B (3).

Proportionment of hours among subjects according to Time-Table in Appendix B (2).

	Senior.	Junior.
Language and Grammar	5 hours.	5 hours.
Composition	1 hour.	2 „
Mathematics	9 hours.	4 „
School management and Model Lessons . . .	5 „	5 „
History	1½ „	2 „
Geography	2 „	2 „
Physical Science	1 hour.	2 „
Drawing	3 hours.	3 „
Drill and Gymnastics	2½ „	2½ „
TOTAL .	30 hours.	27½ hours.

APPENDIX C (1).

Contents of "An Agricultural Primer" by Mr. J. B. Fuller.

APPENDIX C (2).

Synopsis of Practical Work Illustrative of the Agricultural Lessons in the Third and Fourth Readers.

Book III.

Lesson I.—The plant.—(*a*) *In the class-room*—Display a plant with root, stem and aves, and, if possible, flower and fruit. The root draws water, etc., from the ground.

In proof of this, fill two bottles with water; in the mouth of one fix a plant by means of e cork in such a position that its root is in the water and its stem outside. In the other ttle fix the cork merely. In a few days the water in the bottle in which the plant is fixed ill be seen to be considerably less than that in the bottle with no plant in it.

(*b*) Display a plant of gram or arhar (tur) with root complete. Give examples of other ants with tap-roots (such as mango, tamarind, etc.); at the same time give an example of e root (crown root) of wheat or juari.

(*c*) *In the field*—Point out different kinds of plants, great and small, which have leaves nd flowers on their branches. Point out the different colours of the flowers and the honey-es or other insects busy in search of honey.

In the class-room—Show by experiment of bottle-culture* that a plant can live a certain me solely on the food it takes from the air; and (as a second illustration) prove that plants ave need of air by showing that a plant will wither in a few days if we merely invert a ass cover over it.

(*d*) *In the field*—Point out that a field which has been well ploughed, well manured and ell weeded bears a better crop than a field in which this kind of care has not been taken.

Lesson II.—Seed.—(*a*) *In the class-room*—Cut open a guava fruit and show the many eds in it. Show the structure of the flower and in what part of it the fruit grows.

Give a brief account of the formation of seed. At the same time show the structure of *bhindi* flower (okra) and make it clear that its fruit also is produced in this way.

Show by an experiment of bottle-culture how shoots spring from the seed, as described in he beginning of the lessons, and the plant grows.

In the field—Examine the way in which the ovary grows in flowers of the gourd class nd the fruit is formed; and show the necessity of pollen by tying muslin over the style nd stigma.

(*b*) *In the field*—Point out a cotton-plant in which there are both flowers and fruit; hen, cutting the fruit, show the cotton-seeds in their receptacles wrapped in cotton.

Point out a branch of mango on which is a bunch of many flowers; and compare its ower with that of the cotton.

Point out two ears of wheat at different stages, in one of which the grains are formed, in he other unformed. Explain how the grains are formed.

(*c*) *In the field*—Point out various kinds of grain and pulse and explain their uses.

Lesson III.—Good seed.—(*a*) *In the class-room*—Cause seeds to germinate in an arthen vessel; contrast the growth of good and bad seeds.

(*b*) *In the field*—Point out that good seed gives a good crop, bad seed a poor crop.

(*c*) *In the field*—Explain how to pick out good seed in the threshing floor and the fields.

---

* See list of experiments in Appendix C (1).

(*d*) *In the class-room*—Explain what useful crops of foreign countries do grow or could grow in India.

Lesson IV.—Plant food.—(*a*) *In the class-room*—Display the minute bunch of fine hair-like threads on the ends of a root, and contrast it with the mouth of animals. Perform the experiment illustrating endosmosis,* and explain how sap rises in the stem and circulates through the whole plant.

Repeat the experiments performed in the class-room in part (*a*) of Lesson I. Take clods of earth and put small portions of them in each of two glasses. Keep one glass in the class-room (in a shady spot) and the other out in the air and sunlight with water dripping over it. In a few days the earth in the glass placed outside will have broken up and become powder, but the clods in the glass kept inside the room will not have changed. This proves that hard clods break up and powder under the united action of air, sunlight and water.

In one glass put some lumps of salt; in another powdered salt; pour water into both. It will be seen that the powder dissolves faster than the lumps.

(*b*) *In the class-room*—Burn a wax-candle, showing that water vapour and carbonic acid gas are given off. If you hold an inverted glass over the burning candle, water will form in the glass. If you burn the candle inside a bottle, carbonic acid gas will be formed.

Dry a plant and then burn it. It will be seen that the greater part of the plant is composed of water and of substances which, on burning, fly off in the form of gas, while but little remains in the form of ash.

(*c*) *In the field*—Contrast the crops in manured fields with those in fields not manured.

Lesson V.—Plant food.—(*a*) *In the field*—Point out how many things which might serve as manure are wasted in an Indian village; and, so far as possible, explain the methods of putting them to advantage.

(*b*) *In the field*—Point out the methods of making good manure out of ordinary manure, such as bones, cow-dung, urine, etc.

(*c*) *In the field*—Contrast the crop on an irrigated with that on an unirrigated field, and point out the increase caused by irrigation. If possible, point out an embanked field and its advantages.

Lesson VI.—Careful protection.—(*a*) *In the field*—Point out fields full of weeds and fields bearing thick-sown crops. Explain the injuries arising under these circumstances. Explain the advantages of sowing in lines; show the use of the *daura* and *dundia* (a light bullock hoe).

(*b*) *In the field*—Point out *kans* grass, and show the method of exterminating it.

(*c*) *In the field*—Should the diseases of *agia, gerua* (rust) or *kandua* (smut) be present in the crop, point them out. Contrast healthy and diseased plants, and explain the methods of getting rid of diseases.

(*d*) *In the field*—Point out different kinds of scarecrows, and explain their use.

Explain also the protection afforded by making hedges and raising *machans* with strings of bells.

Book IV.

Lesson VII.—The flower.—(*a*) *In the class-room*—Explain fully the structure of a cotton-flower, and show that the structure of the hibiscus or of the *bhindi* flower is the same.

(*b*) *In the class-room*—Show the structure of flowers commonly found in the country.

In the field—Point out a crop of Indian corn and show how the pollen from the male flowers of the tassel falls upon the stigma of the female flowers attached to the cob.

---

* See list of experiments in Appendix C (4).

(c) *In the field*—Point out a field of gourd-like plants, cucumbers, pumpkins, etc. Show their male and female flowers, and explain the part performed by insects in fertilising the seeds.

Explain thoroughly the formation of seed.

Lesson VIII.—Good seed.—(a) Repeat Lesson III (a), (b), (c) and (d).

(b) *In the field*—Point out instances in which cultivators practise rotation of crops, and explain its advantages.

In the class-room—Name crops of other countries which are grown with advantage in India.

(c) *In the class-room*—Give instances of crops of other countries which either are or could be cultivated in the pupils' villages.

Lesson IX.—Plant food.—(a) *In the class-room*—Show all that happens when a plant is grown in a bottle (bottle-culture). Sow seed in cleaned sand, and water with clean water; then, as the plant grows, show how it lives for a few days on the food it derives from the air alone.

Perform the experiment of oxygen gas given off by leaves, and explain that the oxygen given off through the leaves forms part of the carbonic acid gas (which they have absorbed).

Perform the experiment of blowing through a tube into lime-water, and explain that carbonic acid gas forms part of the breath we exhale.

Perform the experiment of transpiration,* and explain the value of water to plants.

(b) *In the class-room*—Explain convincingly that the soil of a field in which crops are sown each year becomes weakened, and how great, for this reason, is the need of manuring.

(c) *In the class-room*—Explain thoroughly how urine is wasted in a village and how it accidentally finds its way into the fields. Explain the method of putting green crop manure on the field.

(d) *In the class-room*—Explain the methods of making manure from dung and bones respectively.

(e) *In the class-room*—Thoroughly explain the advantages of irrigation in manured fields, and especially its necessity in fields manured with dung or green crop manure. Show the necessity of different kinds of manure for different fields.

Lesson X.—Plant food.—(a) *In the field*—Point out various kinds of soil.

In the class-room—In order to show the effect of heat and water in the detrition of rocks, heat a broken bottle and immediately cool it (by throwing on water), when it will split up.

(b) *In the class-room*—Repeat the experiment of the clods of earth given under Lesson IV (a).

In the field—Point out the harrowing or ploughing of fields after the harvest, and explain its use.

If possible, show an English plough, and contrast its effect with that of the native plough.

(c) *In the field*—Point out the advantages of deep ploughing and explain what fields are suitable for it.

(d) *In the class-room*—Repeat the experiment of transpiration. Weigh a fresh plant; then dry it in the sun and weigh again. From the difference in weight show how much water there was in the plant.

(e) *In the class-room*—Take two flat oblong pieces of glass and tie them together with string. Plunge one end of them into water, allowing the other end to remain outside, when

* See list of experiments in Appendix C (4).

you will see that the water ceases to find its own level and rises up between the two plates of glass. Having performed this experiment give a full account of capillary attraction.

Show how this force acts in blotting-paper and in earth. Show that a sun-dried brick sucks up more water than loose soil.

In the field—Point out the use of *daura* and *dundia* (bullock hoe) and explain the advantage gained by using a *khurpi* (spud) in an Indian garden.

(*f*) *In the field*—If possible, point out a completely embanked field, and explain its advantages.

(*g*) *In the field*—If possible, point out the different methods of irrigation and describe them.

Lesson XI.—Careful protection.—(*a*) *In the field*—Compare fields full of weeds and weeded fields.

In the class-room -Describe the advantages of weeding.

In the field—Point out *kans* grass in the fields; explain the method of exterminating it.

(*b*) *In the field*—Point out *kans* and other kinds of grass in flower. Explain how advantageous it is to root them up before they flower. Compare, by weighing the outturns, crops sown in lines and crops sown broadcast and point out the methods of weeding those crops.

Repeat explanation of use of *daura* and *dundia*.

(*c*) *In the field*—Explain the advantage of thinning a crop. Contrast a thick and a thinned crop.

(*d*) *In the field*—If possible point out crops of broadcast and transplanted rice, and explain the advantages or the opposite of each method. Show the method of *byasi*.*

(*e*) *In the field*—Point out *gerua* (rust) and *kandua* (smut); explain how these diseases spread by the mere act of destroying crops. Show how to get rid of them.

In the field—Point out scarecrows and hedges and explain their uses.

Lesson XII.—Agricultural machinery and implements.—(*a*) *In the field*—Contrast the Indian with the English plough.

(*b*) *In the field*—Point out the uses of the *dhenkli* (a kind of swipe), the *moth* (well-bucket) the *rahat* (Persian wheel), the *duhara charsa* (double-bucket) and, if possible, the Cawnpore water-pump.

(*c*) *In the field*—If possible, point out a winnower for winnowing grain in the threshing floor.

(*d*) *In the field*—Compare the iron roller-mill for crushing sugarcane with the wooden roller-mill (*ghana*) and pestle-mill (*kolhu*), and point out their advantages and disadvantages.

Lesson XIII.—The management of farm cattle—(*a*) *In the class-room.*—Explain the method of preparing green grass by ensilage, and explain its advantages.

(*b*) *In the field*—Show how the undermentioned diseases can be recognised and how they should be treated, if cattle contract them in any of the pupils' villages;—

(1) Rinderpest.
(2) Anthrax.
(3) Pleuro-pneumonia.
(4) Foot and mouth disease.

The fourteenth lesson is omitted from this list because it deals with the law of landlord and tenant and cannot be practically illustrated.

---

* This is a rough way of thinning rice usual in Raipur and Bilaspur. When the crop is a few inches high it is ploughed up, a number of the plants being thus killed. Its wastefulness compared with transplantation is obvious.

APPENDIX C (3).

Syllabus of Demonstration Work to illustrate the Agricultural Primer.

Preliminary.—Exhibit the magnifying glass. Show magnifying powers of a drop of water on leaf-hairs. Explain general structure of the microscope, and show its effect with previously prepared slides, and also with objects (such as a flea) prepared for the occasion.

Lesson I.—(*With the microscope*)—Vorticella, rotifera (fixed animals)—desmids and diatoms (moving-vegetables)—volvox (moving-vegetables in early stage).

(*On the table*)—Sensitive plant—examples of plants which open and close at certain hours.

(*With the microscope*)—The cellular structure of the root and stem of a plant.

Lesson II.—(*On the table*)—Structure of the orange—plantain stem—tap roots and crown roots—root hairs as seen on a plant dug up, and the rootlets of a plant grown in water—proof of root suction—exhibit endosmosis with a tube closed at one end by a piece of bladder—aërial roots of the maize, barged and orchid—compare beet with carrot, onion and potato as specimens of root and of stem development.

Lesson III.—(*With the microscope*)—Fibro-vascular bundles in the plantain—cross sections showing their position in the plantain and the arhar—also the thickness of cell walls.

(*On the table*)—Section of trees showing the annual growth under the outside bark—flax fibre and hemp fibre extracted from the plants.

Experiments to show transpiration with a shade—then with leaves having their petioles in water and out of water.

(*With the microscope*)—Stomata of leaves—chlorophyll granules.

Lesson IV.—(*On the table*)—Cotton flower and seed.

(*With the microscope*)—Anthers and pollen grains—pollen grains adhering to stigma.

Lesson V.—(*On the table*)—Compare with cotton flower a flower of the pea tribe—a *til* flower—a marigold—the flowering stalk of the maize—male and female flowers of the gourd tribe—flowering stalks of the grass tribe—exhibit the Paris model of a pea flower and diagrams.

Lesson VI.—(*On the table*)—Repeat the experiment to show endosmosis—demonstrate the existence of invisible gases by showing the effect on light and on life of oxygen and carbonic acid gas confined in jars—prepare oxygen gas from chlorate of potash or red oxide of mercury—prepare carbonic acid gas from charcoal and prove its existence by limewater—show its existence in breath expelled from lungs.

Show the evolution of oxygen gas by leaves exposed to sunlight in water and the clearing of a jar of carbonic acid by plant action so as to render it possible to burn a light in it—illustrate the gaseous, liquid and solid conditions of matter by an experiment with sulphur.

Lesson VII.—(*On the table*)—Compare good and bad wheat seed and cotton seed—prove by pot cultivation that a good seed of wheat or cotton will produce a finer plant than a bad seed, if indeed the latter does not fail to germinate altogether—explain the loss in sowing for wheat a large amount of seed which does not germinate.

(*In the field*)—Show the effect on plants of not being crowded but having plenty of room and air.

Lesson VIII.—(*On the table*)—Compare different kinds of wheat seed—pissi, baura kathia, and different kinds of cotton—bani, jari, American.

Lesson IX.—(*On the table*)—Show by cultivation in distilled water that a plant can, for some time, live on what it obtains from air alone.

Chemical combination—its difference from mechanical combination illustrated by an experiment with zinc and sulphur, heated and unheated—explode hydrogen and oxygen and produce water—decompose water by electricity—compare a piece of chalk with specimens of calcium, carbon and oxygen gas—contrast chalk (carbonate of lime) with pure lime (lacking carbonic acid)—prepare limewater from the latter—drive off carbonic acid from the former and show the formation of chalk by the combination of the carbonic acid with the limewater—repeat the experiment on limewater with carbonic acid formed from charcoal—illustrate chemical combination by the formation of copper nitrate—show the rusting of iron by combination of oxygen—then drive off the oxygen from red oxide of mercury and show its reduction to pure metal and loss of weight owing to loss of oxygen.

Repeat the experiments described in the second clause under Lesson VI—show loss of weight by desiccation in case of cabbage or other fleshy-leaved plant—weigh a piece of green bamboo—then desiccate to show weight of water—then reduce to charcoal to show the weight of substances other than carbon and mineral constituents—then reduce to ashes to show weight of mineral constituents.

Lesson X.—(*On the table*)—Exhibit specimens of different kinds of soils and analyse them mechanically to show various degrees of fineness.

(*In the field*).—The box system of keeping cattle and the proper storage of manure under cover.

Lesson XI.—(*On the table*)—Effect of watering with solution of saltpetre in pot-cultivation—pot-cultivation with various manurial substances.

(*In the field*)—The sewage farm, the Ville and Manure series of experimental plots.

Lesson XII.—(*On the table*)—Ball and ring experiment to show expansion by heat and contraction by cold—the thermometer—cracking of soils by alternate heating and cooling illustrated by heating a glass rod and cooling it suddenly—show by mechanical analysis the varying proportion of fine particles in different samples of soils.

(*In the field*)—The construction and working of the earth-turning plough.

Lesson XIII.—(*On the table*)—Capillary action in a fine tube—in a sun-dry brick—contrast with a heap of loose earth.

Lesson XIV.—(*In the field*)—Embanking for wheat—effect of irrigation on wheat and garden crops.

(*On the table*)—Illustrate the effect of irrigation in pot-cultivation.

Lesson XV.—(*On the table*)—Specimens of *kans* grass and of *agia* if procurable.

(*In the field*)—Effect of allowing a field to become weedy or its plants overcrowded.

(*With the microscope*)—Rust, ergot, bunt and smut.

Lesson XVI.—(*In the field*)—Construction and use of the following implements:—Swedish plough compared with the local nagar—bakhar—daura—dundia—tifan—argara—chain-pump—steel-lift—moth—winnower—thresher—sugarcane mills.

Lesson XVII.—(*In the field*) Ensilage—if possible, illustrate cattle disease by examination of patients in the veterinary dispensary.

APPENDIX C (4).

Agricultural Apparatus for Primary Schools.

I. Requirements.—Two bottles; two bored corks; seed; a shallow trough blotting-paper; water; manure or soil; paper.

Experiments.—(*A*) Place seed in trough between layers of moist blotting paper for four or five days. Then fill one bottle with water to the top, and transplant young plant to hole in cork, supporting it with cotton, so that its roots reach water. Surround bottle with paper, and place in airy, sunny spot. Change water every two or four days. The plant will grow for a few days and then wither.

(*B*) Repeat experiment (*A*) with the other bottle; but supply food* for the plant at time of changing water. Here the plant will grow as though in the ground, but, owing to excess of water, remains thinner than if in ground.

Result.—These experiments supply an object-lesson on the growth of plants; we also see that plants draw up nourishment dissolved in water by their roots; but in experiment (*A*) owing to lack of food, the plant dies prematurely.

II.—Requirement.—A magnifying glass.

Experiment.—Show parts of plants, especially flower.

Result.—This serves as an object-lesson and to illustrate the lessons generally.

III.—Requirements.—A wide-mouthed bottle; a tube open at both ends and with one end widened out; a bladder; green salts of copper.

Experiment.—Put plain water in bottle. Fasten bladder so tightly with string to wide end of tube as to be air-tight. Pour water thickened with salts into tube, and insert latter, wide end downwards, into water in bottle, and fix with cork. Mark point to which water in tube comes up. After half an hour the water in tube will have risen.

Result.—We see that a thin, penetrating substance rises through a bladder into a thicker substance. It is by this power of endosmosis that a plant draws its food up from the ground by its roots.

IV.—Requirements.—A clean glass; an earthen jar containing a plant with healthy foliage.

Experiment.—Invert glass over plant, and place in bright sunlight. After half an hour, the inside of the glass will have become quite dimmed with water vapour, which gradually condenses owing to coldness of glass, becomes water and trickles down inside of glass.

Result.—We see that water-vapour is continually being given off by the plant. This is called transpiration through the leaves.

V.—Requirements.—A large wide-mouthed bottle; leaves of some plant; a small earthen trough.

Experiment.—Fill bottle with water and insert leaves. Fill trough with water, and invert bottle in it in such a way that no air gets in. Place in bright sunlight. After about three hours very small bubbles are seen adhering to the ends of the leaves, and after a time

---

* The method of making this food is explained as follows:—Mix soil or manure in a bucket with water and let it stand till the nourishing elements are dissolved. The water, drained off and filtered through blotting paper, is the food to be used in experiments.

collect above in the bottle. This gas is not common air, but oxygen, as can be proved by testing its properties.*

Result.—We see that leaves, in the process of respiration, give out oxygen through their stomata.

VI.—Requirements.—A glass tube one foot in length and with a mouth half-an-inch in diameter; clear limewater (instructions for making this are added); a glass bowl.

Experiment.—Put some limewater into bowl, and blow into it through tube. After a few moments the water will appear cloudy, and finally, owing to the formation of chalk, will become quite white. If the bowl be set aside for a few hours, the chalk will settle at the bottom, clear water remaining above.

Result.—We see that carbonic acid gas is given off from the lungs in respiration. This experiment is shown in connexion with the absorption of this gas, and the giving off of oxygen, by leaves in the presence of sunlight.

---

* Unfortunately this experiment is defective—the gas cannot be collected in sufficient quantity to allow of its being shown (by burning a wire in it, or some such means) to be really oxygen.

APPENDIX C (5).

Time-table for each of the parallel sections of the Normal Agricultural Class.

Day.	7—8.	8—9.	9—10.	3—4	4—5.
Monday . .	Lessons of Readers relating to Botany.	Lessons of Readers relating to Agriculture.	Lessons of Readers relating to Agriculture.	Patwaris' map	Inspection of crops and gardening.
Tuesday . .	Ditto .	Ditto .	Ditto .	Drawing .	Deshi kasrat.
Wednesday .	Model lesson .	Ditto .	Ditto .	Patwaris' papers.	Patwaris' papers.
Thursday .	Ditto .	Ditto .	Ditto .	Drawing .	Deshi kasrat.
Friday . .	Lessons of Readers relating to Agriculture.	Ditto .	Ditto .	Lesson of Reader on the management of farm cattle.	Inspection of crops and gardening.
Saturday . .	Examination .	Examination .	Examination	Drawing .	Deshi kasrat.

INDEX.

A

B

D

E

F

Q

H

I

J

K

Paras.

T

U

C. I. C. P. C.—No. 5639 D, G. E.—18-2-04.—2·000.—C. W.